
APPENDIX F: RELEVANT PAGES FROM DIPOLE VALIDATION KIT REPORT(S)



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Client **Nokia Salo TCC**

Certificate No: **D750V3-1075_Nov12**

CALIBRATION CERTIFICATE

Object **D750V3 - SN: 1075**

Calibration procedure(s) **QA CAL-05.v8**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **November 19, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	01-Nov-12 (No. 217-01640)	Oct-13
Power sensor HP 8481A	US37292783	01-Nov-12 (No. 217-01640)	Oct-13
Reference 20 dB Attenuator	SN: 5058 (20k)	27-Mar-12 (No. 217-01530)	Apr-13
Type-N mismatch combination	SN: 5047.2 / 06327	27-Mar-12 (No. 217-01533)	Apr-13
Reference Probe ES3DV3	SN: 3205	30-Dec-11 (No. ES3-3205_Dec11)	Dec-12
DAE4	SN: 601	27-Jun-12 (No. DAE4-601_Jun12)	Jun-13
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

Calibrated by: **Israe El-Naouq** **Laboratory Technician**

Signature

Approved by: **Katja Pokovic** **Technical Manager**

Issued: November 19, 2012

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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Multilateral Agreement for the recognition of calibration certificates

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.3
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	750 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	42.2 $\pm$ 6 %	0.90 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.09 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	8.30 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.36 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	5.41 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.5	0.96 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	55.3 $\pm$ 6 %	0.97 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.24 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	8.88 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.48 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	5.88 W/kg $\pm$ 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$55.2 \Omega + 0.6 j\Omega$
Return Loss	- 26.0 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$50.9 \Omega - 1.6 j\Omega$
Return Loss	- 34.6 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.426 ns
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After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	September 04, 2012

DASY5 Validation Report for Head TSL

Date: 19.11.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1075

Communication System: CW; Frequency: 750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.9 \text{ mho/m}$; $\epsilon_r = 42.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.33, 6.33, 6.33); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Head Tissue/Pin=250 mW, $d=15\text{mm}$ 2/Zoom Scan (7x8x7)/Cube 0:

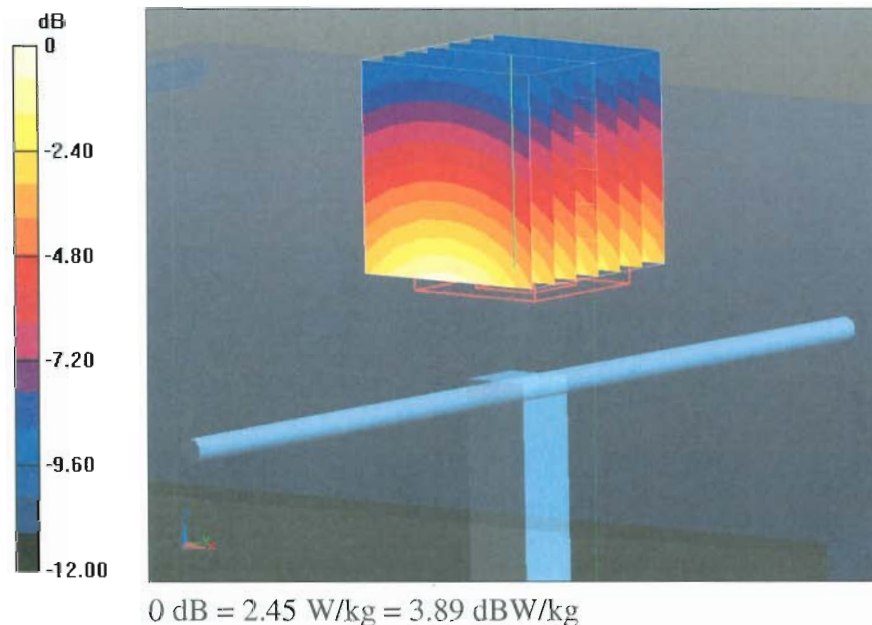
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 53.207 V/m; Power Drift = 0.04 dB

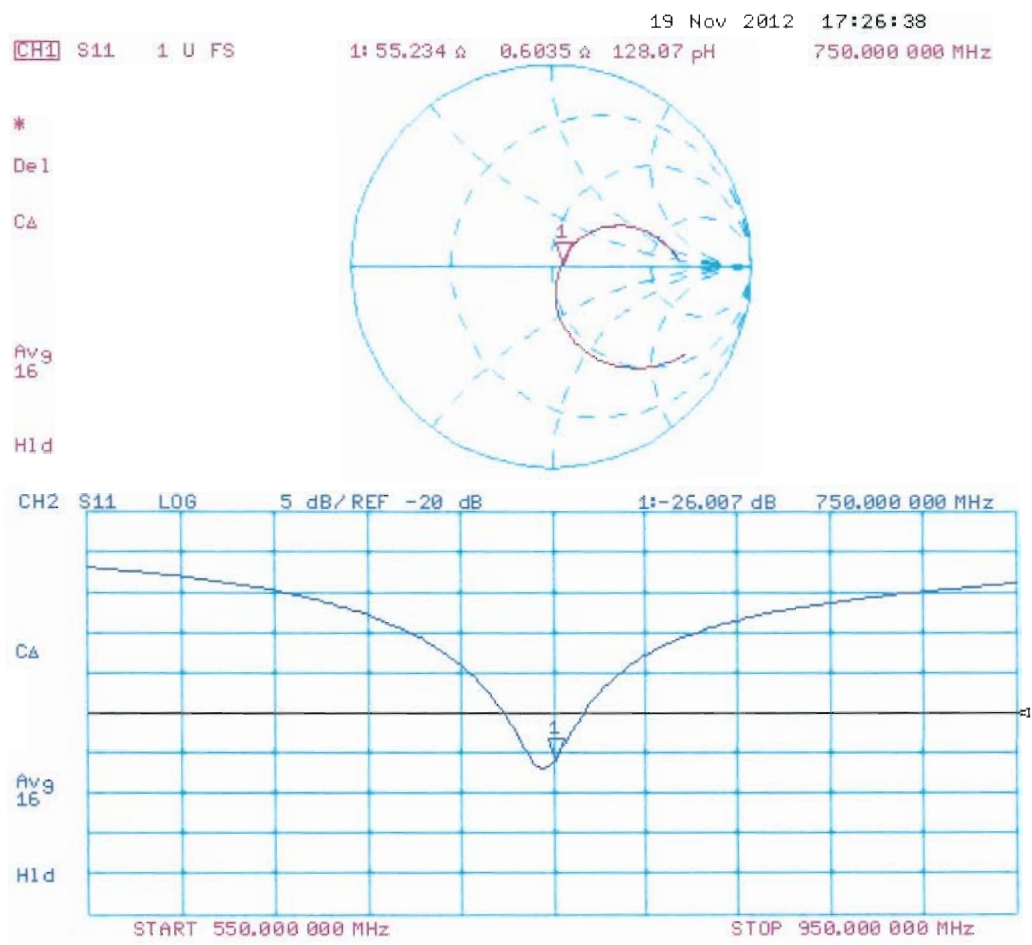
Peak SAR (extrapolated) = 3.22 W/kg

SAR(1 g) = 2.09 W/kg; SAR(10 g) = 1.36 W/kg

Maximum value of SAR (measured) = 2.45 W/kg



Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 19.11.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1075

Communication System: CW; Frequency: 750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.97 \text{ mho/m}$; $\epsilon_r = 55.3$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.12, 6.12, 6.12); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Body Tissue/Pin=250 mW, $d=15\text{mm}$ /Zoom Scan (7x7x7)/Cube 0:

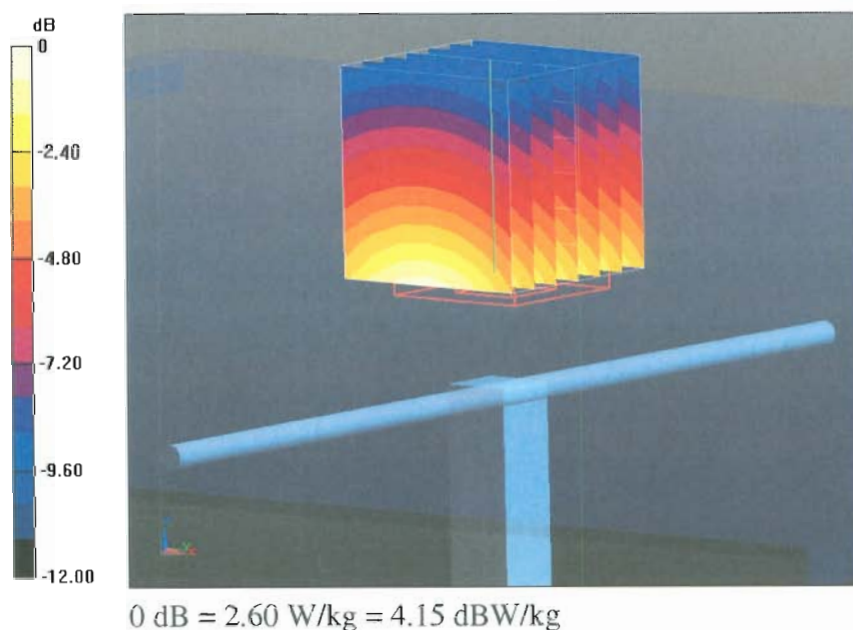
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 53.100 V/m; Power Drift = 0.01 dB

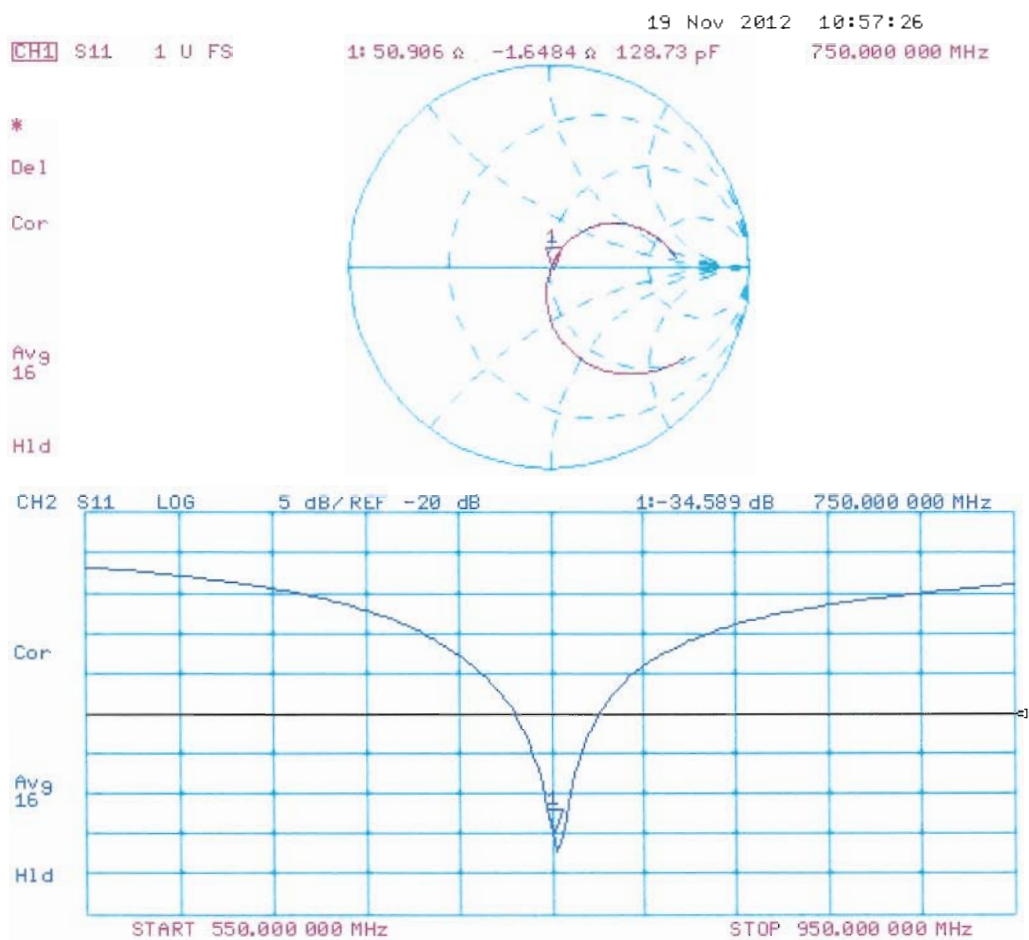
Peak SAR (extrapolated) = 3.35 W/kg

SAR(1 g) = 2.24 W/kg; SAR(10 g) = 1.48 W/kg

Maximum value of SAR (measured) = 2.60 W/kg



Impedance Measurement Plot for Body TSL





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Multilateral Agreement for the recognition of calibration certificates

Client **Nokia Salo TCC**

Certificate No: **D835V2-480_Dec12**

CALIBRATION CERTIFICATE

Object **D835V2 - SN: 480**

Calibration procedure(s) **QA CAL-05.v8
Calibration procedure for dipole validation kits above 700 MHz**

Calibration date: **December 03, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

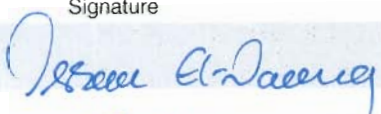
All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	01-Nov-12 (No. 217-01640)	Oct-13
Power sensor HP 8481A	US37292783	01-Nov-12 (No. 217-01640)	Oct-13
Reference 20 dB Attenuator	SN: 5058 (20k)	27-Mar-12 (No. 217-01530)	Apr-13
Type-N mismatch combination	SN: 5047.3 / 06327	27-Mar-12 (No. 217-01533)	Apr-13
Reference Probe ES3DV3	SN: 3205	30-Dec-11 (No. ES3-3205_Dec11)	Dec-12
DAE4	SN: 601	27-Jun-12 (No. DAE4-601_Jun12)	Jun-13
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

Calibrated by: **Israe El-Naouq** Name: **Israe El-Naouq** Function: **Laboratory Technician**

Approved by: **Katja Pokovic** Name: **Katja Pokovic** Function: **Technical Manager**

Signature



Issued: December 3, 2012

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Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.3
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	41.4 $\pm$ 6 %	0.92 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.39 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	9.40 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.56 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	6.16 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	54.5 $\pm$ 6 %	0.99 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.42 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	9.51 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.59 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	6.27 W/kg $\pm$ 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.8 Ω - 3.3 j Ω
Return Loss	- 29.4 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.7 Ω - 4.9 j Ω
Return Loss	- 24.3 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.391 ns
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After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	January 28, 2003

DASY5 Validation Report for Head TSL

Date: 03.12.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 480

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $f = 835$ MHz; $\sigma = 0.92$ mho/m; $\epsilon_r = 41.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.07, 6.07, 6.07); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

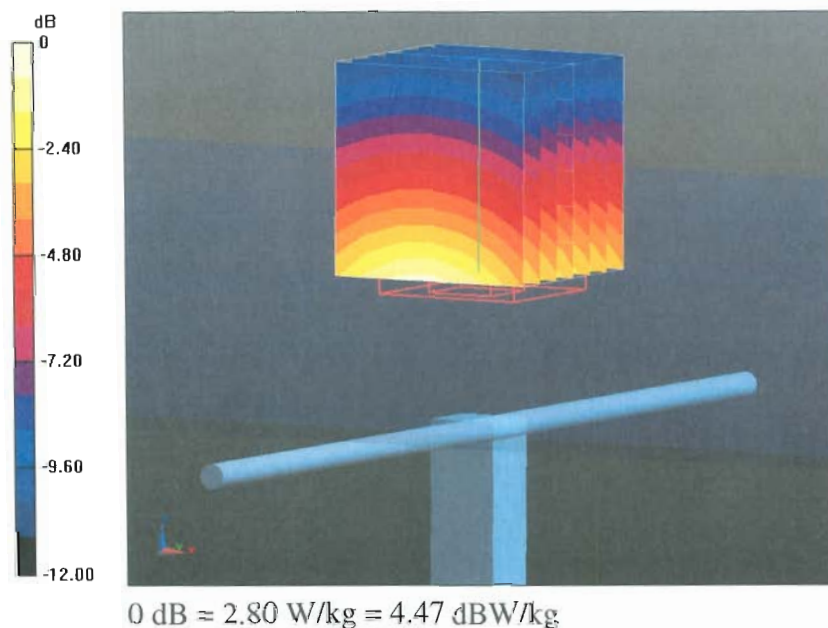
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.814 V/m; Power Drift = 0.00 dB

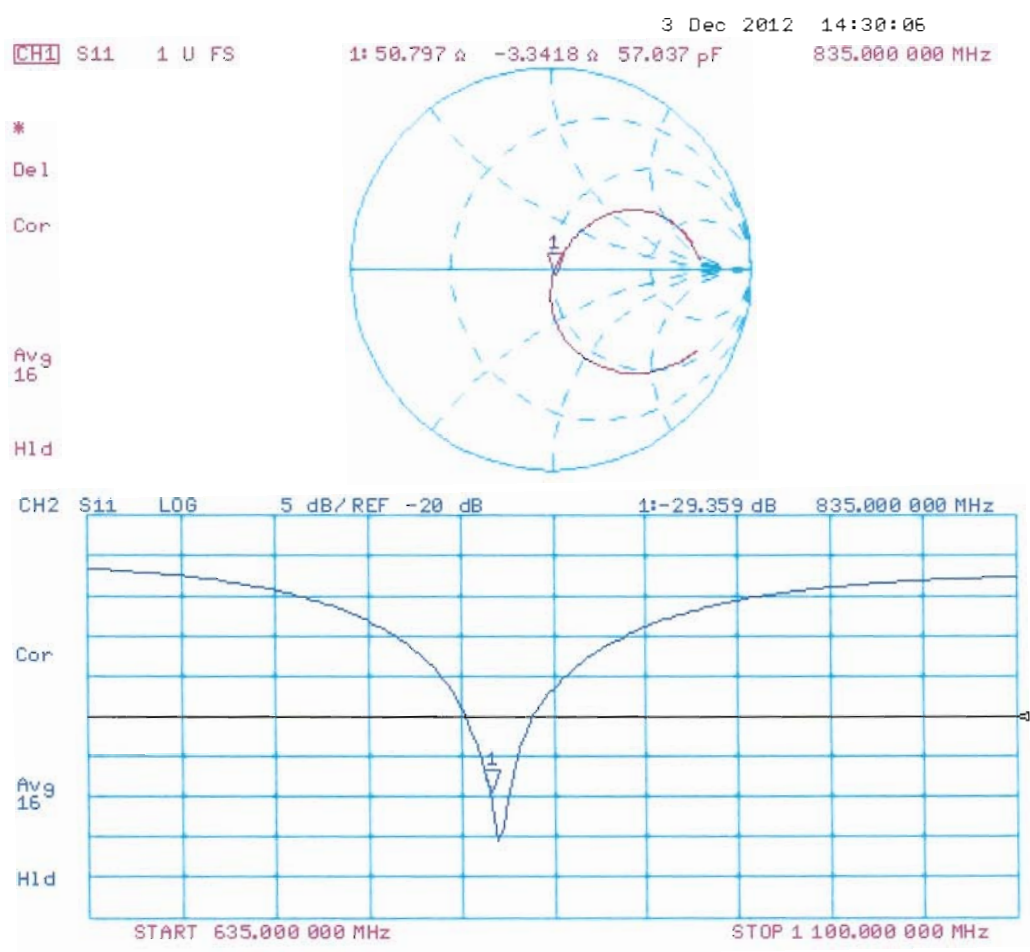
Peak SAR (extrapolated) = 3.60 W/kg

SAR(1 g) = 2.39 W/kg; SAR(10 g) = 1.56 W/kg

Maximum value of SAR (measured) = 2.80 W/kg



Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 03.12.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 480

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $f = 835$ MHz; $\sigma = 0.99$ mho/m; $\epsilon_r = 54.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.02, 6.02, 6.02); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

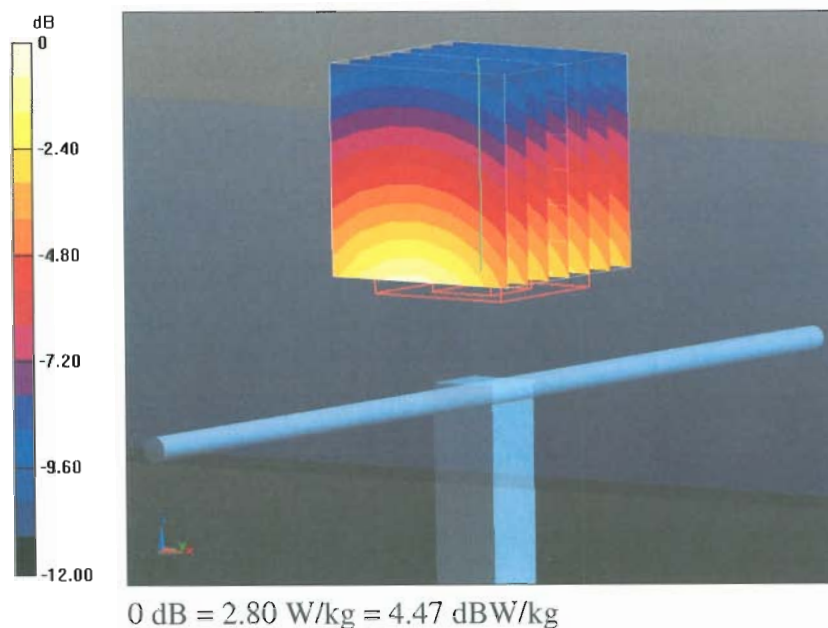
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.301 V/m; Power Drift = 0.00 dB

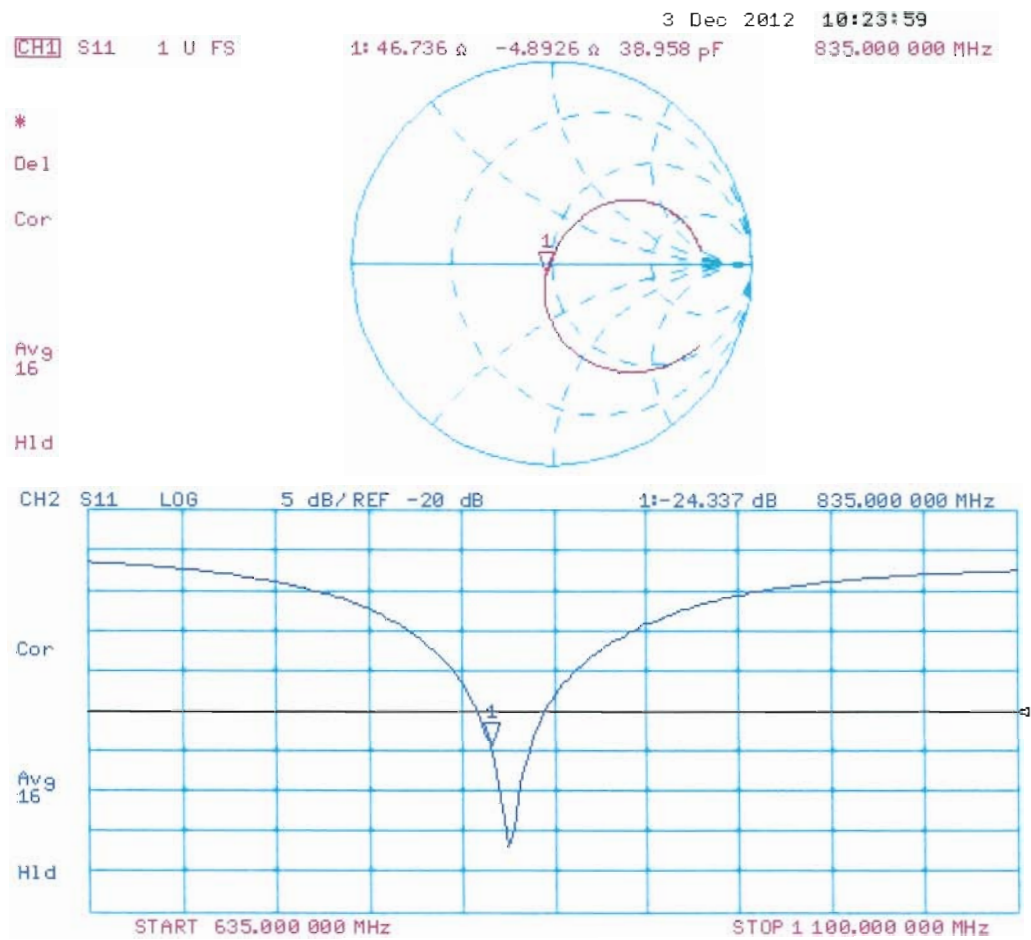
Peak SAR (extrapolated) = 3.53 W/kg

SAR(1 g) = 2.42 W/kg; SAR(10 g) = 1.59 W/kg

Maximum value of SAR (measured) = 2.80 W/kg



Impedance Measurement Plot for Body TSL





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Accreditation No.: **SCS 108**

Client **Nokia Salo TCC**

Certificate No: **D1750V2-1082_Dec12**

CALIBRATION CERTIFICATE

Object **D1750V2 - SN: 1082**

Calibration procedure(s) **QA CAL-05.v8**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **December 05, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
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DAE4	SN: 601	27-Jun-12 (No. DAE4-601_Jun12)	Jun-13
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

Calibrated by: **Israe El-Naouq** **Israe El-Naouq** **Israe El-Naouq**
 Name Function Laboratory Technician

Approved by: **Katja Pokovic** **Katja Pokovic** **Katja Pokovic**
 Name Function Technical Manager

Issued: December 5, 2012

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Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.3
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1750 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.1	1.37 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	39.3 $\pm$ 6 %	1.34 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	8.99 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	36.3 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	4.80 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	19.3 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.4	1.49 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	51.8 $\pm$ 6 %	1.47 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	9.21 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	36.9 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	4.95 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	19.8 W/kg $\pm$ 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$49.8 \Omega + 0.7 j\Omega$
Return Loss	- 43.1 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$46.2 \Omega + 0.8 j\Omega$
Return Loss	- 27.8 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.219 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	January 19, 2011

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1082

Communication System: CW; Frequency: 1750 MHz

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.34$ mho/m; $\epsilon_r = 39.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.22, 5.22, 5.22); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

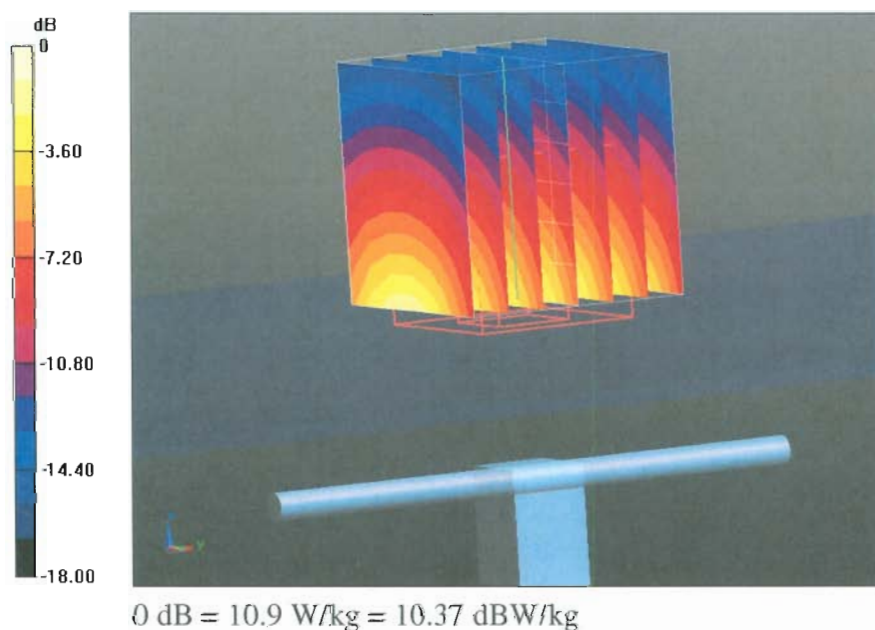
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 92.445 V/m; Power Drift = 0.04 dB

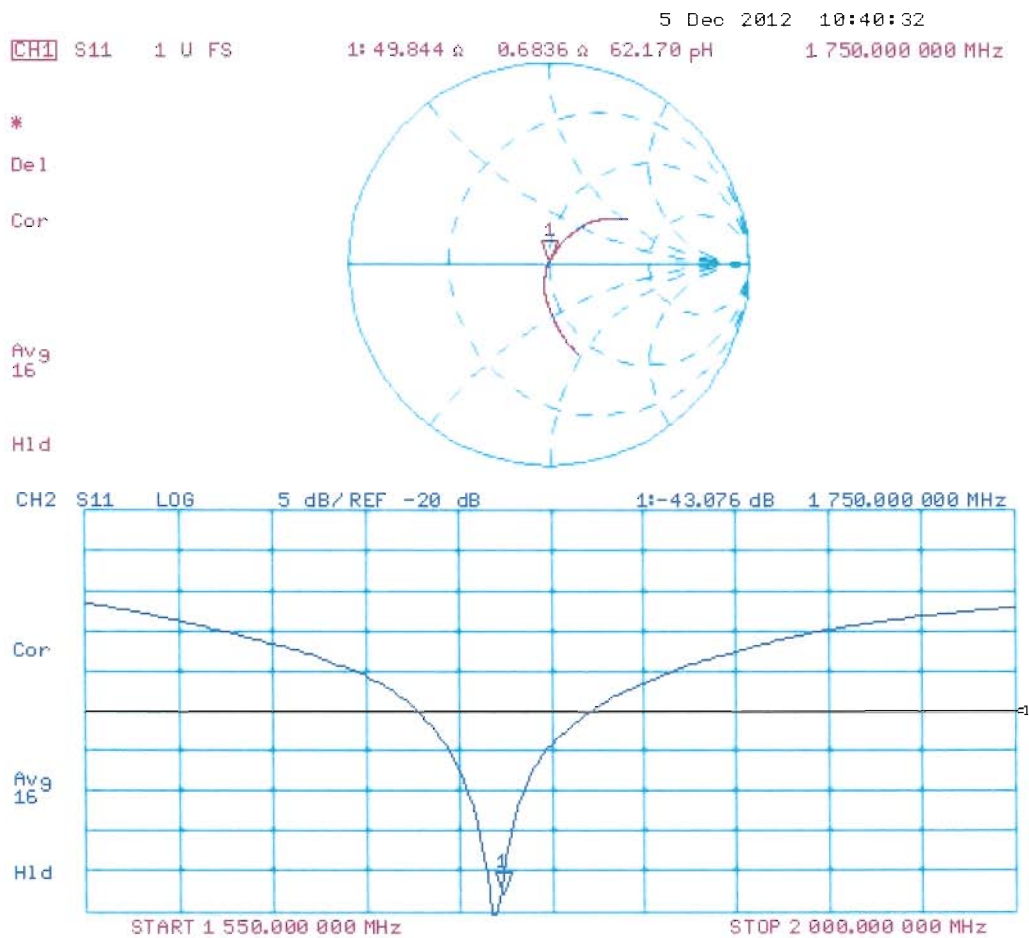
Peak SAR (extrapolated) = 15.9 W/kg

SAR(1 g) = 8.99 W/kg; SAR(10 g) = 4.8 W/kg

Maximum value of SAR (measured) = 10.9 W/kg



Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 05.12.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1082

Communication System: CW; Frequency: 1750 MHz

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.85, 4.85, 4.85); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

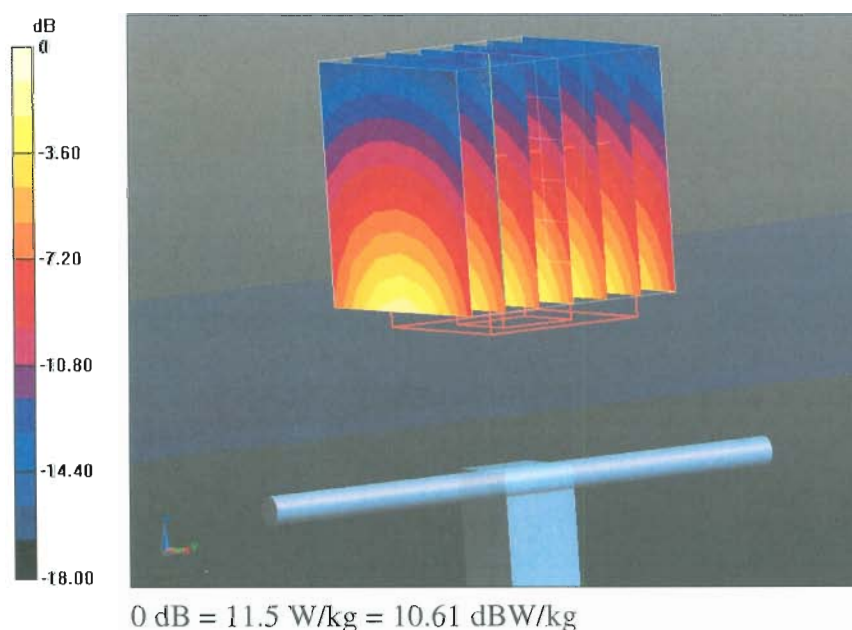
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 92.445 V/m; Power Drift = 0.04 dB

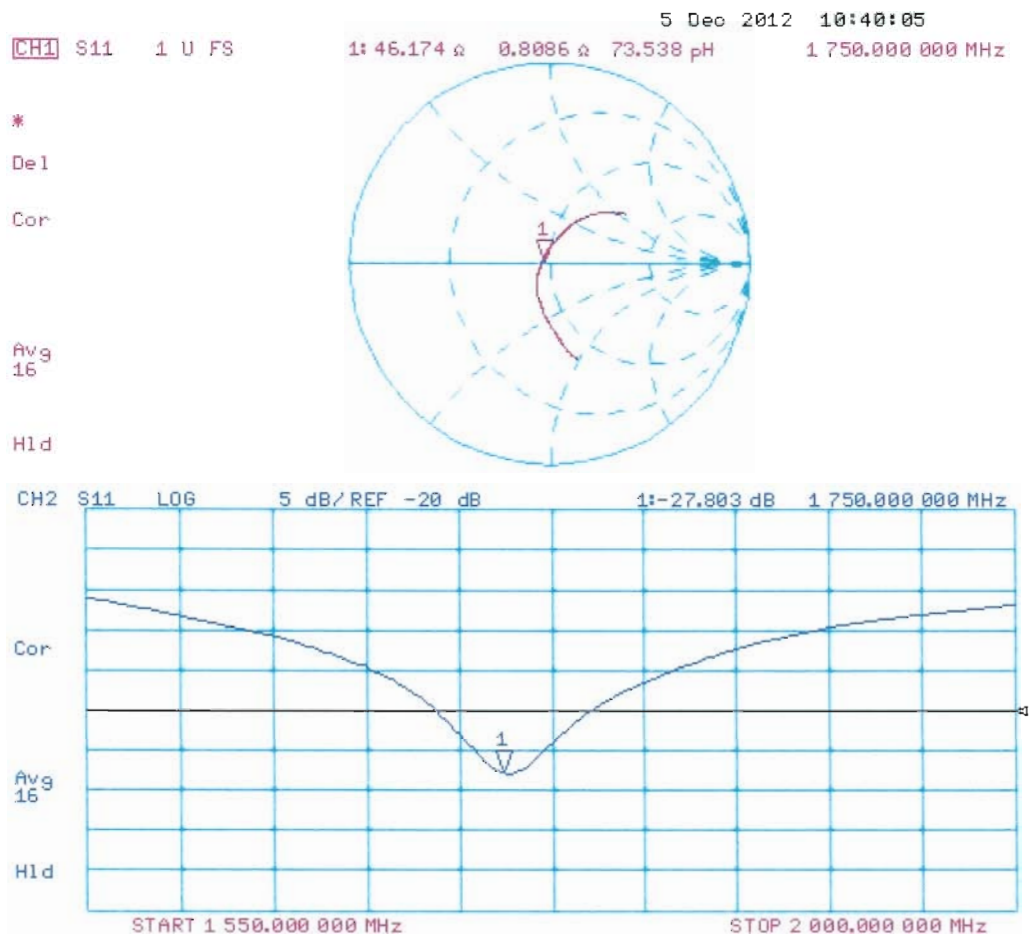
Peak SAR (extrapolated) = 15.9 W/kg

SAR(1 g) = 9.21 W/kg; SAR(10 g) = 4.95 W/kg

Maximum value of SAR (measured) = 11.5 W/kg



Impedance Measurement Plot for Body TSL





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Accreditation No.: **SCS 108**

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 Multilateral Agreement for the recognition of calibration certificates

Client **Nokia Salo TCC**

Certificate No: **D1900V2-5d013_Dec12**

CALIBRATION CERTIFICATE

Object **D1900V2 - SN: 5d013**

Calibration procedure(s) **QA CAL-05.v8**
 Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **December 06, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	01-Nov-12 (No. 217-01640)	Oct-13
Power sensor HP 8481A	US37292783	01-Nov-12 (No. 217-01640)	Oct-13
Reference 20 dB Attenuator	SN: 5058 (20k)	27-Mar-12 (No. 217-01530)	Apr-13
Type-N mismatch combination	SN: 5047.3 / 06327	27-Mar-12 (No. 217-01533)	Apr-13
Reference Probe ES3DV3	SN: 3205	30-Dec-11 (No. ES3-3205_Dec11)	Dec-12
DAE4	SN: 601	27-Jun-12 (No. DAE4-601_Jun12)	Jun-13
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

	Name	Function	Signature
Calibrated by:	Israe El-Naouq	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: December 6, 2012

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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Accreditation No.: **SCS 108**

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Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.3
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	39.5 $\pm$ 6 %	1.38 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	10.1 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	40.6 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.28 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	21.2 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	52.2 $\pm$ 6 %	1.52 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	10.3 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	41.0 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.41 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	21.6 W/kg $\pm$ 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$52.3 \Omega + 6.2 j\Omega$
Return Loss	- 23.8 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$48.4 \Omega + 5.9 j\Omega$
Return Loss	- 24.1 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.194 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	April 30, 2002

DASY5 Validation Report for Head TSL

Date: 06.12.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d013

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.38$ mho/m; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.01, 5.01, 5.01); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

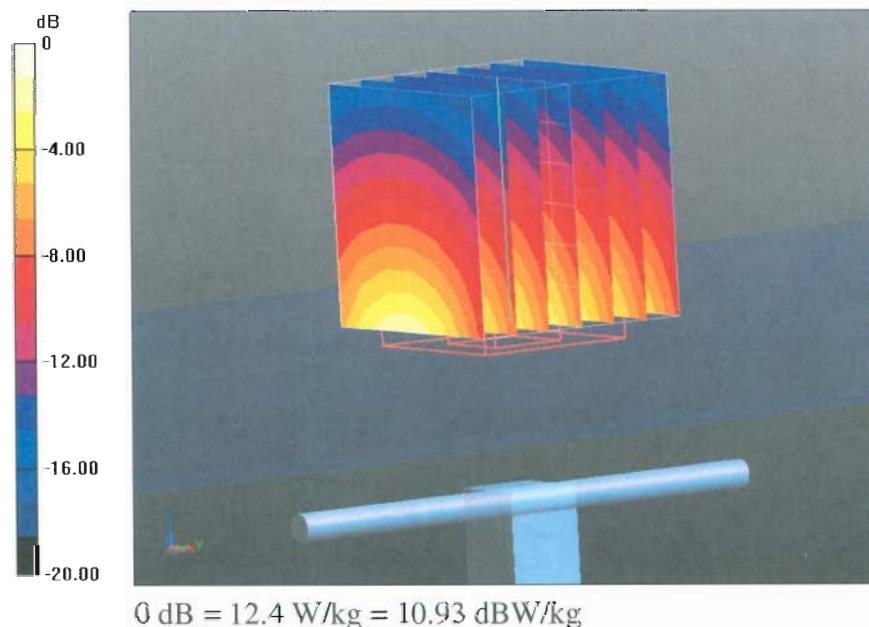
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 97.748 V/m; Power Drift = 0.04 dB

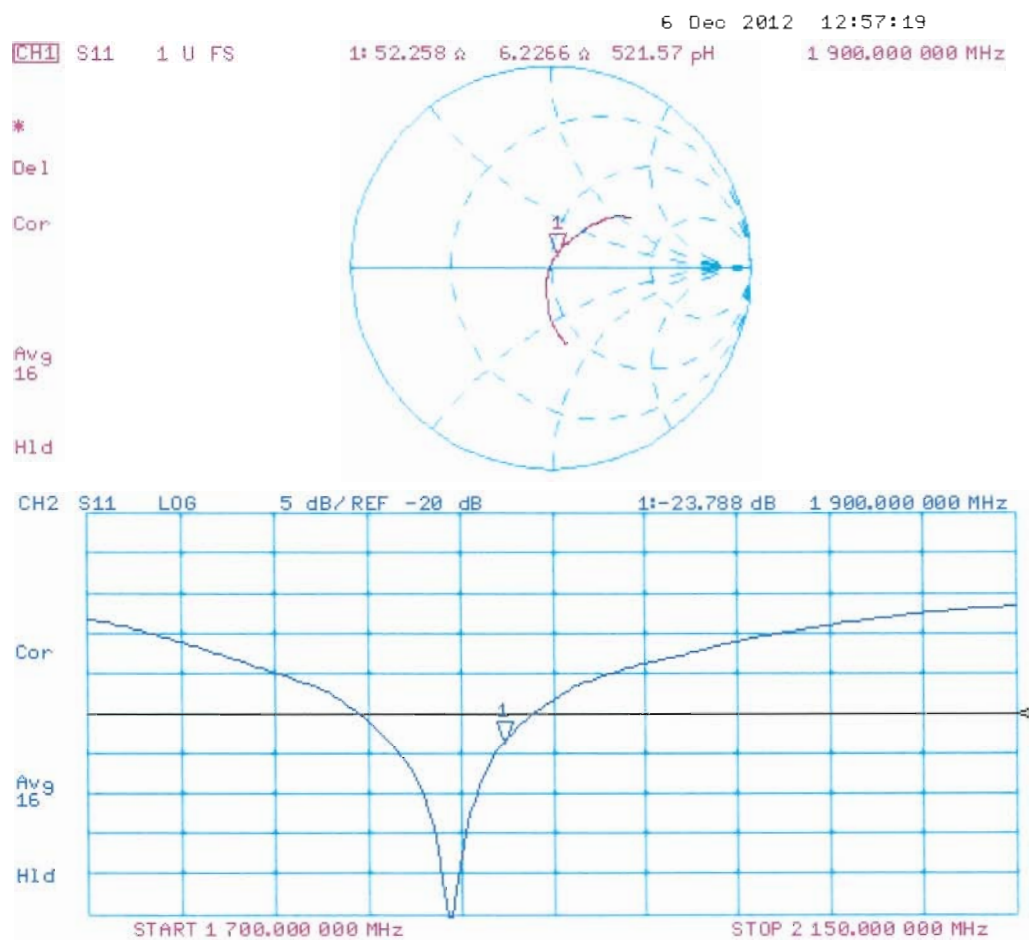
Peak SAR (extrapolated) = 18.0 W/kg

SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.28 W/kg

Maximum value of SAR (measured) = 12.4 W/kg



Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 06.12.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d013

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.62, 4.62, 4.62); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

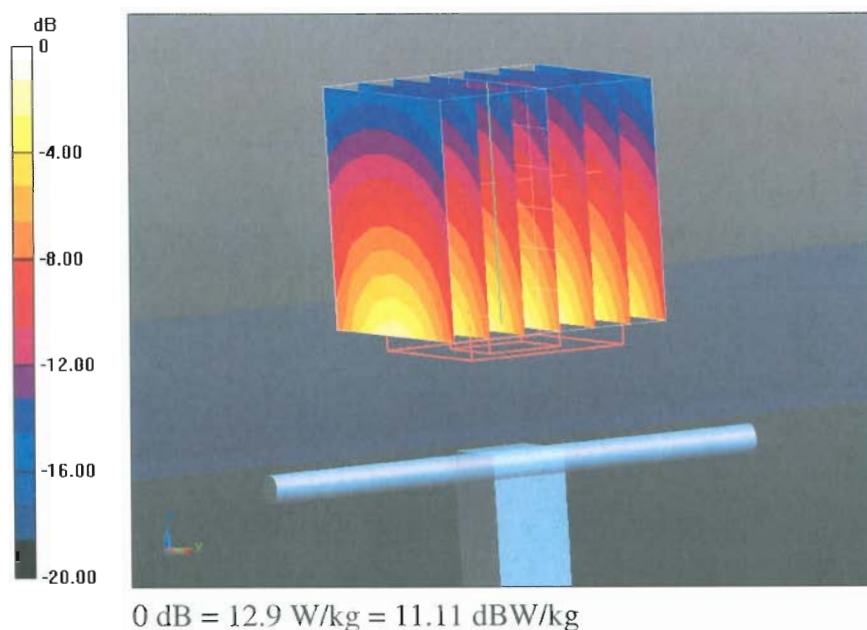
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 96.039 V/m; Power Drift = 0.04 dB

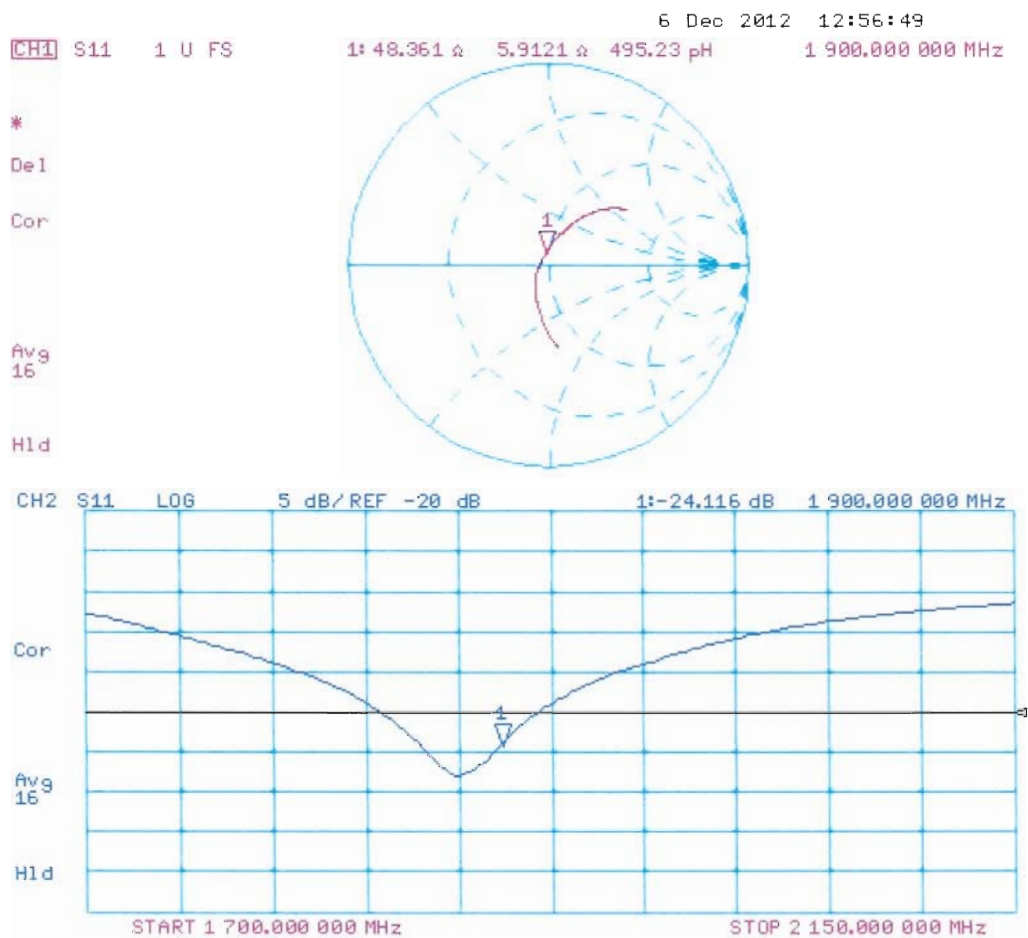
Peak SAR (extrapolated) = 18.0 W/kg

SAR(1 g) = 10.3 W/kg; SAR(10 g) = 5.41 W/kg

Maximum value of SAR (measured) = 12.9 W/kg



Impedance Measurement Plot for Body TSL





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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Nokia SD**

Certificate No: **D2450V2-800_Sep12**

CALIBRATION CERTIFICATE

Object **D2450V2 - SN: 800**

Calibration procedure(s) **QA CAL-05.v8**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **September 13, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	05-Oct-11 (No. 217-01451)	Oct-12
Power sensor HP 8481A	US37292783	05-Oct-11 (No. 217-01451)	Oct-12
Reference 20 dB Attenuator	SN: 5058 (20k)	27-Mar-12 (No. 217-01530)	Apr-13
Type-N mismatch combination	SN: 5047.2 / 06327	27-Mar-12 (No. 217-01533)	Apr-13
Reference Probe ES3DV3	SN: 3205	30-Dec-11 (No. ES3-3205_Dec11)	Dec-12
DAE4	SN: 601	27-Jun-12 (No. DAE4-601_Jun12)	Jun-13

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-11)	In house check: Oct-12

Calibrated by: **Jeton Kastrati**  **Laboratory Technician**

Approved by: **Katja Pokovic**  **Technical Manager**

Signature

Issued: September 13, 2012

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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Accreditation No.: **SCS 108**

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	39.9 $\pm$ 6 %	1.84 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.4 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	53.2 mW / g $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.24 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	24.9 mW / g $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	51.0 $\pm$ 6 %	2.01 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.0 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	50.9 mW / g $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.05 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	23.9 mW / g $\pm$ 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$54.9\ \Omega + 2.2\ j\Omega$
Return Loss	- 25.7 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$51.4\ \Omega + 3.7\ j\Omega$
Return Loss	- 28.1 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.159 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	November 02, 2006

DASY5 Validation Report for Head TSL

Date: 13.09.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 800

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.84$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.45, 4.45, 4.45); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.2(969); SEMCAD X 14.6.6(6824)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

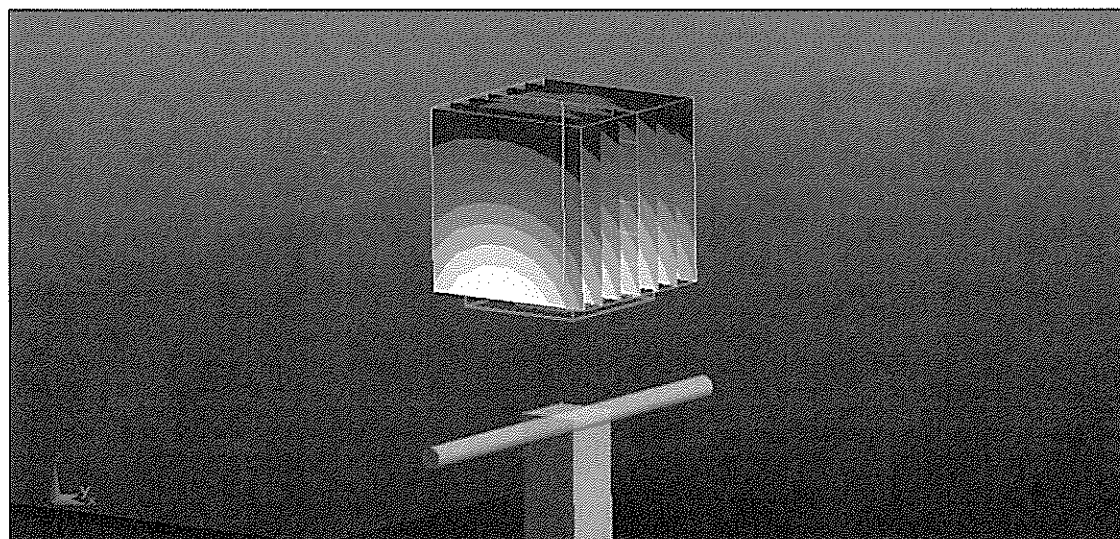
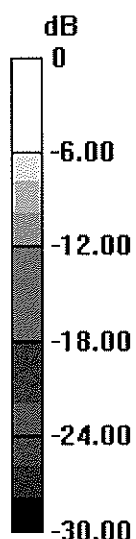
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 100.1 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 27.710 mW/g

SAR(1 g) = 13.4 mW/g; SAR(10 g) = 6.24 mW/g

Maximum value of SAR (measured) = 17.2 W/kg

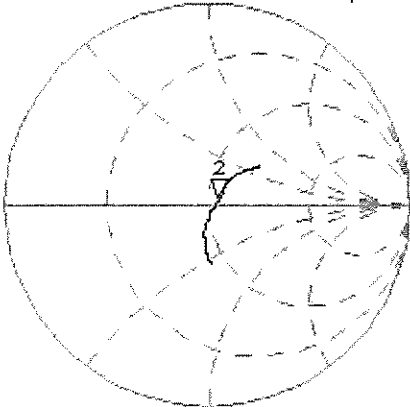


0 dB = 17.2 W/kg = 24.71 dB W/kg

Impedance Measurement Plot for Head TSL

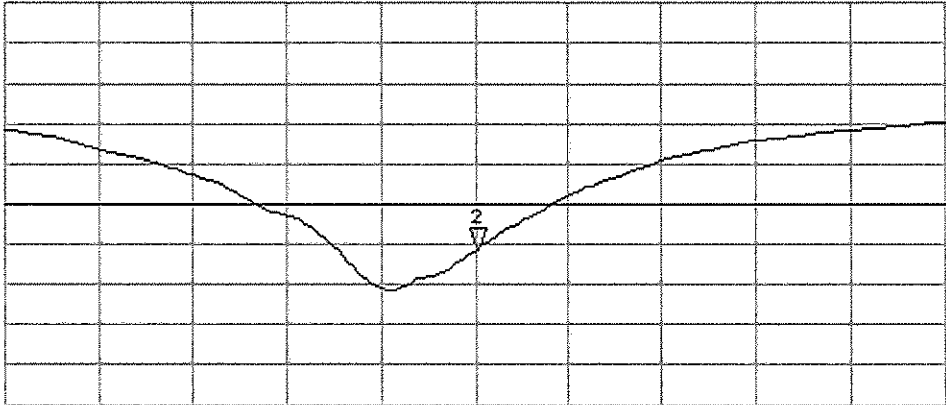
13 Sep 2012 10:29:35
CH1 S11 1 U FS 2: 54.936 Ω 2.2227 Ω 144.39 μH 2 450.000 000 MHz

*
De1
CA
Avg
16
H1d



CH2 S11 LOG 5 dB/REF -20 dB 2:-25.749 dB 2 450.000 000 MHz

CA
Avg
16
H1d



START 2 250.000 000 MHz STOP 2 650.000 000 MHz

DASY5 Validation Report for Body TSL

Date: 13.09.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 800

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 2.01$ mho/m; $\epsilon_r = 51$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.26, 4.26, 4.26); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.2(969); SEMCAD X 14.6.6(6824)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

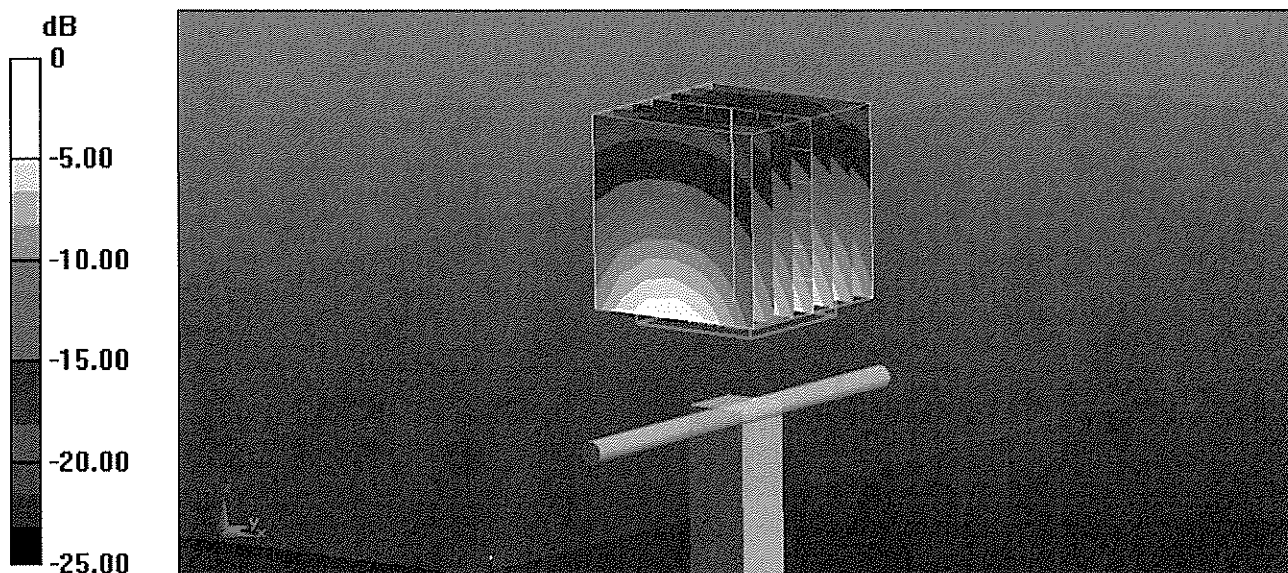
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 95.223 V/m; Power Drift = 0.01 dB

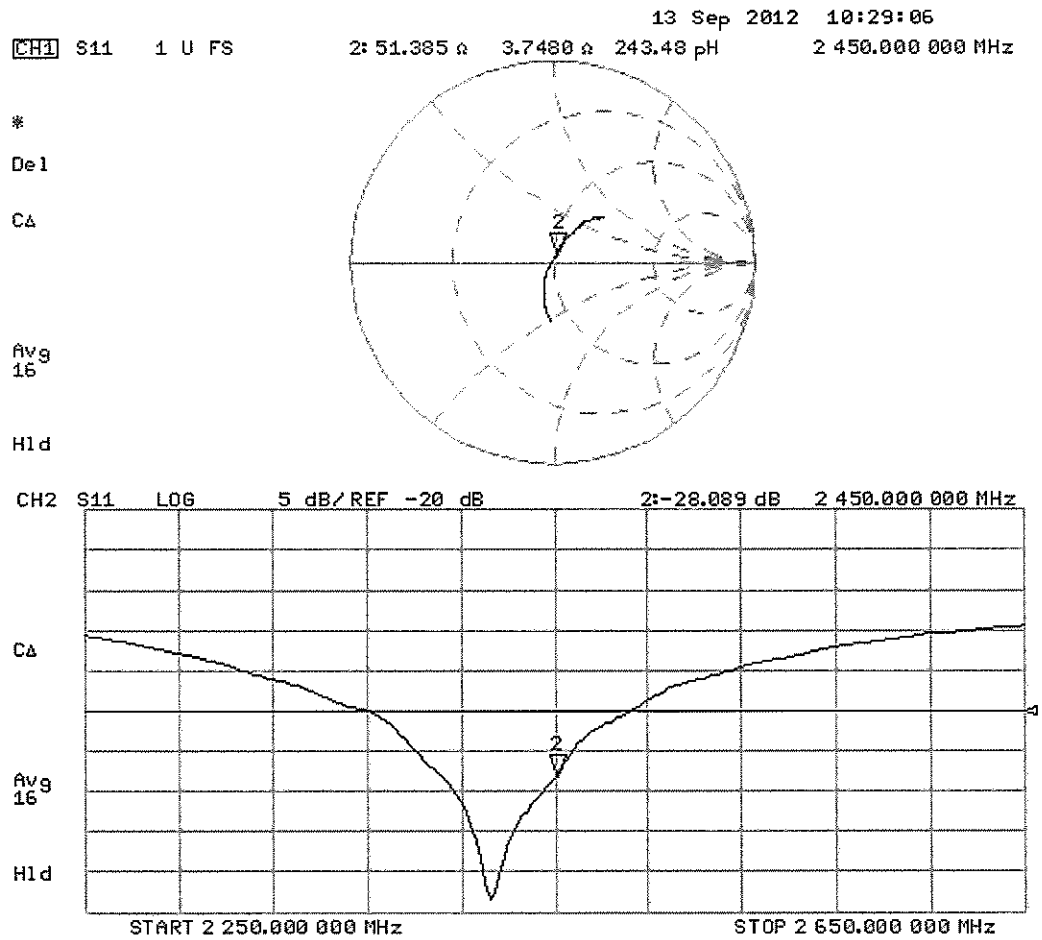
Peak SAR (extrapolated) = 26.601 mW/g

SAR(1 g) = 13 mW/g; SAR(10 g) = 6.05 mW/g

Maximum value of SAR (measured) = 16.9 W/kg



Impedance Measurement Plot for Body TSL





Accredited by the Swiss Accreditation Service (SAS)
 The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Nokia SD**

Certificate No: **D5GHzV2-1042_Nov12**

CALIBRATION CERTIFICATE

Object **D5GHzV2 - SN: 1042**

Calibration procedure(s) **QA CAL-22.v1**
Calibration procedure for dipole validation kits between 3-6 GHz

Calibration date: **November 13, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	01-Nov-12 (No. 217-01640)	Oct-13
Power sensor HP 8481A	US37292783	01-Nov-12 (No. 217-01640)	Oct-13
Reference 20 dB Attenuator	SN: 5058 (20k)	27-Mar-12 (No. 217-01530)	Apr-13
Type-N mismatch combination	SN: 5047.2 / 06327	27-Mar-12 (No. 217-01533)	Apr-13
Reference Probe EX3DV4	SN: 3503	30-Dec-11 (No. EX3-3503_Dec11)	Dec-12
DAE4	SN: 601	27-Jun-12 (No. DAE4-601_Jun12)	Jun-13
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

Calibrated by: **Leif Klysner** **Laboratory Technician**

Approved by: **Katja Pokovic** **Technical Manager**

Signature

Issued: November 13, 2012

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- a) IEC 62209-2, "Evaluation of Human Exposure to Radio Frequency Fields from Handheld and Body-Mounted Wireless Communication Devices in the Frequency Range of 30 MHz to 6 GHz: Human models, Instrumentation, and Procedures"; Part 2: "Procedure to determine the Specific Absorption Rate (SAR) for including accessories and multiple transmitters", March 2010
- b) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- c) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.3
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4.0 mm, dz = 1.4 mm	Graded Ratio = 1.4 (Z direction)
Frequency	5200 MHz $\pm$ 1 MHz 5300 MHz $\pm$ 1 MHz 5500 MHz $\pm$ 1 MHz 5600 MHz $\pm$ 1 MHz 5800 MHz $\pm$ 1 MHz	

Head TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	36.0	4.66 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	34.8 $\pm$ 6 %	4.53 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5200 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.85 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	77.9 W/kg $\pm$ 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.25 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	22.3 W/kg $\pm$ 19.5 % (k=2)

Head TSL parameters at 5300 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.9	4.76 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.7 ± 6 %	4.63 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5300 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.15 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	80.9 W / kg ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.34 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.2 W/kg ± 19.5 % (k=2)

Head TSL parameters at 5500 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.6	4.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.4 ± 6 %	4.83 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5500 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.40 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	83.3 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.38 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.5 W/kg ± 19.5 % (k=2)

Head TSL parameters at 5600 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.5	5.07 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.2 ± 6 %	4.93 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5600 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.32 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	82.5 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.37 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.4 W/kg ± 19.5 % (k=2)

Head TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.3	5.27 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.0 ± 6 %	5.15 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5800 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.82 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	77.5 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.23 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	22.1 W/kg ± 19.5 % (k=2)

Body TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	49.0	5.30 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.8 ± 6 %	5.35 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5200 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.36 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	72.9 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.06 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	20.4 W/kg ± 19.5 % (k=2)

Body TSL parameters at 5300 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.9	5.42 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.7 ± 6 %	5.47 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5300 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.54 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	74.7 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.12 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	21.0 W/kg ± 19.5 % (k=2)

Body TSL parameters at 5500 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.6	5.65 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.3 ± 6 %	5.73 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5500 MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.94 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	78.7 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.20 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	21.7 W/kg ± 19.5 % (k=2)

Body TSL parameters at 5600 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.5	5.77 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.2 ± 6 %	5.86 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5600 MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	8.04 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	79.7 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.23 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	22.0 W/kg ± 19.5 % (k=2)

Body TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.2	6.00 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	45.9 ± 6 %	6.13 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5800 MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.46 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	73.9 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.07 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	20.4 W/kg ± 19.5 % (k=2)

Appendix

Antenna Parameters with Head TSL at 5200 MHz

Impedance, transformed to feed point	47.7 Ω - 10.7 j Ω
Return Loss	- 19.1 dB

Antenna Parameters with Head TSL at 5300 MHz

Impedance, transformed to feed point	50.7 Ω - 7.3 j Ω
Return Loss	- 22.7 dB

Antenna Parameters with Head TSL at 5500 MHz

Impedance, transformed to feed point	47.0 Ω - 5.5 j Ω
Return Loss	- 23.9 dB

Antenna Parameters with Head TSL at 5600 MHz

Impedance, transformed to feed point	52.5 Ω - 8.1 j Ω
Return Loss	- 21.7 dB

Antenna Parameters with Head TSL at 5800 MHz

Impedance, transformed to feed point	54.6 Ω - 2.0 j Ω
Return Loss	- 26.4 dB

Antenna Parameters with Body TSL at 5200 MHz

Impedance, transformed to feed point	48.8 Ω - 9.6 j Ω
Return Loss	- 20.2 dB

Antenna Parameters with Body TSL at 5300 MHz

Impedance, transformed to feed point	51.0 Ω - 5.9 j Ω
Return Loss	- 24.5 dB

Antenna Parameters with Body TSL at 5500 MHz

Impedance, transformed to feed point	47.6 Ω - 4.4 j Ω
Return Loss	- 25.7 dB

Antenna Parameters with Body TSL at 5600 MHz

Impedance, transformed to feed point	53.7 Ω - 7.1 j Ω
Return Loss	- 22.3 dB

Antenna Parameters with Body TSL at 5800 MHz

Impedance, transformed to feed point	56.7 Ω - 1.0 j Ω
Return Loss	- 24.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.196 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	December 30, 2005

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1042

Communication System: CW; Frequency: 5200 MHz, Frequency: 5300 MHz, Frequency: 5500 MHz, Frequency: 5600 MHz, Frequency: 5800 MHz

Medium parameters used: $f = 5200$ MHz; $\sigma = 4.53$ mho/m; $\epsilon_r = 34.8$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5300$ MHz; $\sigma = 4.63$ mho/m; $\epsilon_r = 34.7$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5500$ MHz; $\sigma = 4.83$ mho/m; $\epsilon_r = 34.4$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5600$ MHz; $\sigma = 4.93$ mho/m; $\epsilon_r = 34.2$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5800$ MHz; $\sigma = 5.15$ mho/m; $\epsilon_r = 34$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.41, 5.41, 5.41); Calibrated: 30.12.2011, ConvF(5.1, 5.1, 5.1); Calibrated: 30.12.2011, ConvF(4.91, 4.91, 4.91); Calibrated: 30.12.2011, ConvF(4.76, 4.76, 4.76); Calibrated: 30.12.2011, ConvF(4.81, 4.81, 4.81); Calibrated: 30.12.2011;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5200 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 63.770 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 28.5 W/kg

SAR(1 g) = 7.85 W/kg; SAR(10 g) = 2.25 W/kg

Maximum value of SAR (measured) = 18.0 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5300 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 63.429 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 30.4 W/kg

SAR(1 g) = 8.15 W/kg; SAR(10 g) = 2.34 W/kg

Maximum value of SAR (measured) = 18.9 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5500 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 63.178 V/m; Power Drift = 0.08 dB

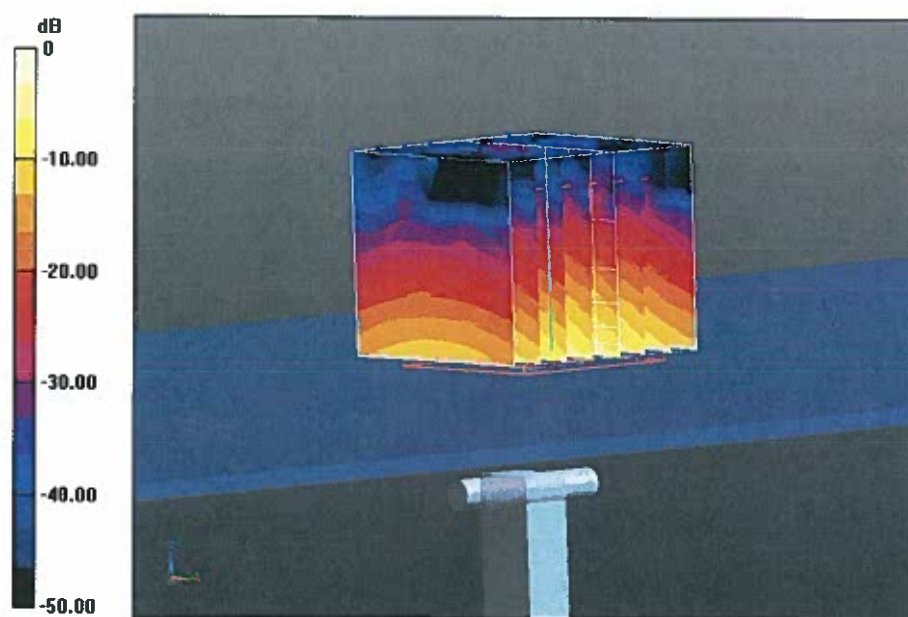
Peak SAR (extrapolated) = 32.8 W/kg

SAR(1 g) = 8.4 W/kg; SAR(10 g) = 2.38 W/kg

Maximum value of SAR (measured) = 19.8 W/kg

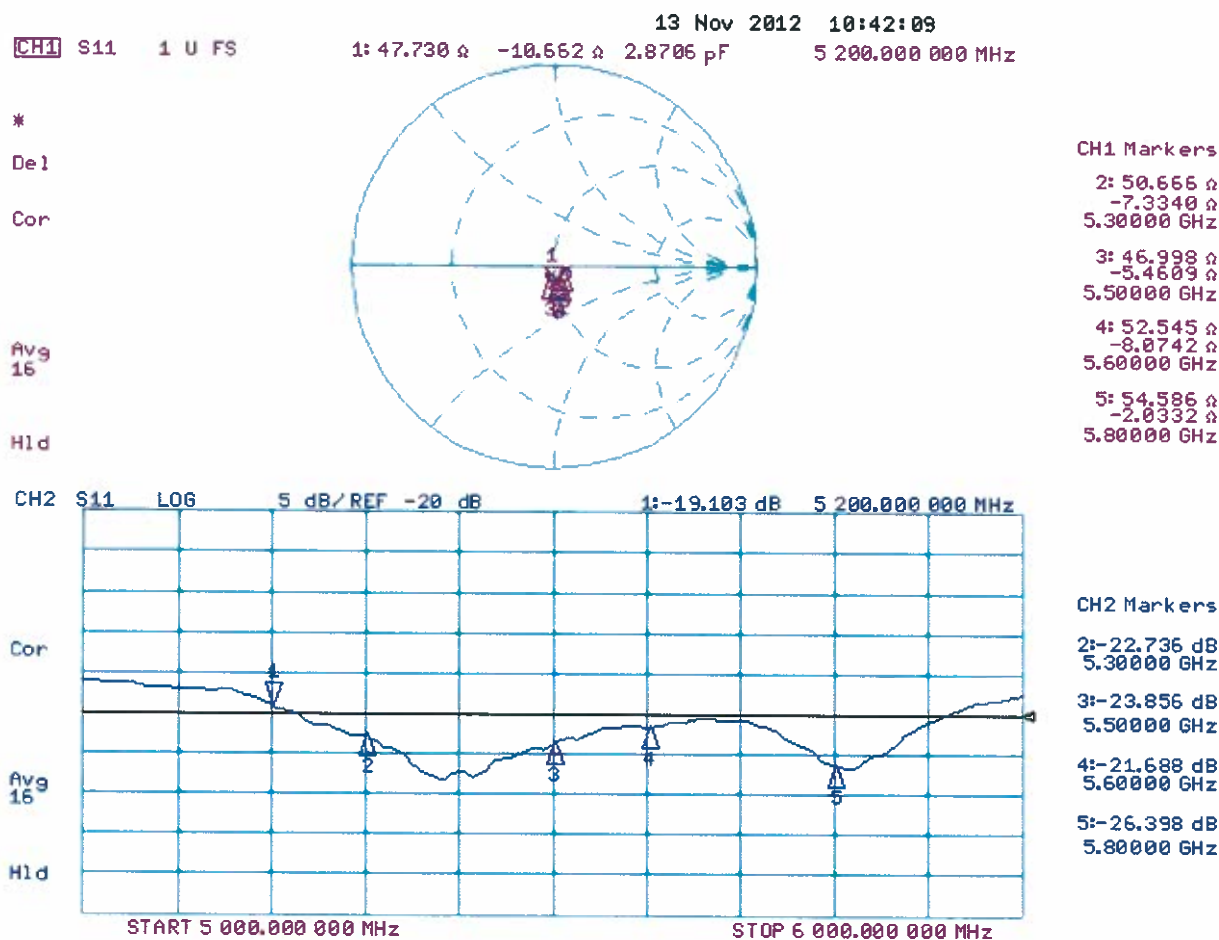
Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 62.410 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 32.6 W/kg
SAR(1 g) = 8.32 W/kg; SAR(10 g) = 2.37 W/kg

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 59.880 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 32.0 W/kg
SAR(1 g) = 7.82 W/kg; SAR(10 g) = 2.23 W/kg
Maximum value of SAR (measured) = 19.0 W/kg



0 dB = 19.0 W/kg = 12.79 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 12.11.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1042

Communication System: CW; Frequency: 5200 MHz, Frequency: 5300 MHz, Frequency: 5500 MHz, Frequency: 5600 MHz, Frequency: 5800 MHz

Medium parameters used: $f = 5200$ MHz; $\sigma = 5.35$ mho/m; $\epsilon_r = 46.8$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5300$ MHz; $\sigma = 5.47$ mho/m; $\epsilon_r = 46.7$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5500$ MHz; $\sigma = 5.73$ mho/m; $\epsilon_r = 46.3$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5600$ MHz; $\sigma = 5.86$ mho/m; $\epsilon_r = 46.2$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5800$ MHz; $\sigma = 6.13$ mho/m; $\epsilon_r = 45.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(4.91, 4.91, 4.91); Calibrated: 30.12.2011, ConvF(4.67, 4.67, 4.67); Calibrated: 30.12.2011, ConvF(4.43, 4.43, 4.43); Calibrated: 30.12.2011, ConvF(4.22, 4.22, 4.22); Calibrated: 30.12.2011, ConvF(4.38, 4.38, 4.38); Calibrated: 30.12.2011;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.06.2012
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.3(988); SEMCAD X 14.6.7(6848)

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5200 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 58.598 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 29.3 W/kg

SAR(1 g) = 7.36 W/kg; SAR(10 g) = 2.06 W/kg

Maximum value of SAR (measured) = 17.7 W/kg

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5300 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 58.989 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 30.7 W/kg

SAR(1 g) = 7.54 W/kg; SAR(10 g) = 2.12 W/kg

Maximum value of SAR (measured) = 18.2 W/kg

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5500 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 59.380 V/m; Power Drift = -0.02 dB

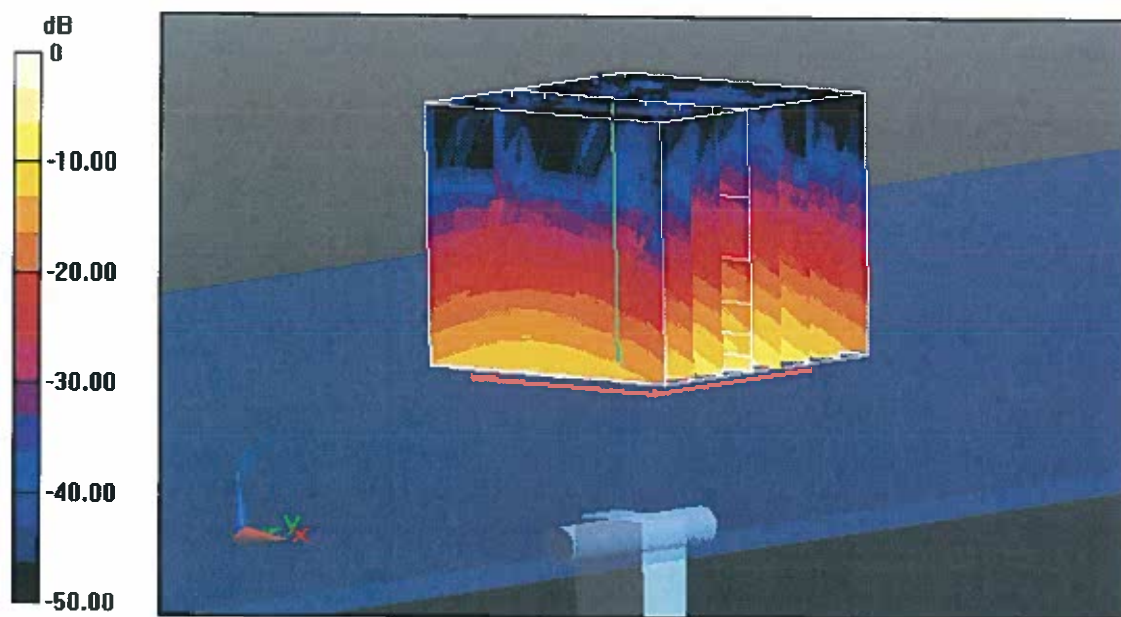
Peak SAR (extrapolated) = 34.4 W/kg

SAR(1 g) = 7.94 W/kg; SAR(10 g) = 2.2 W/kg

Maximum value of SAR (measured) = 19.6 W/kg

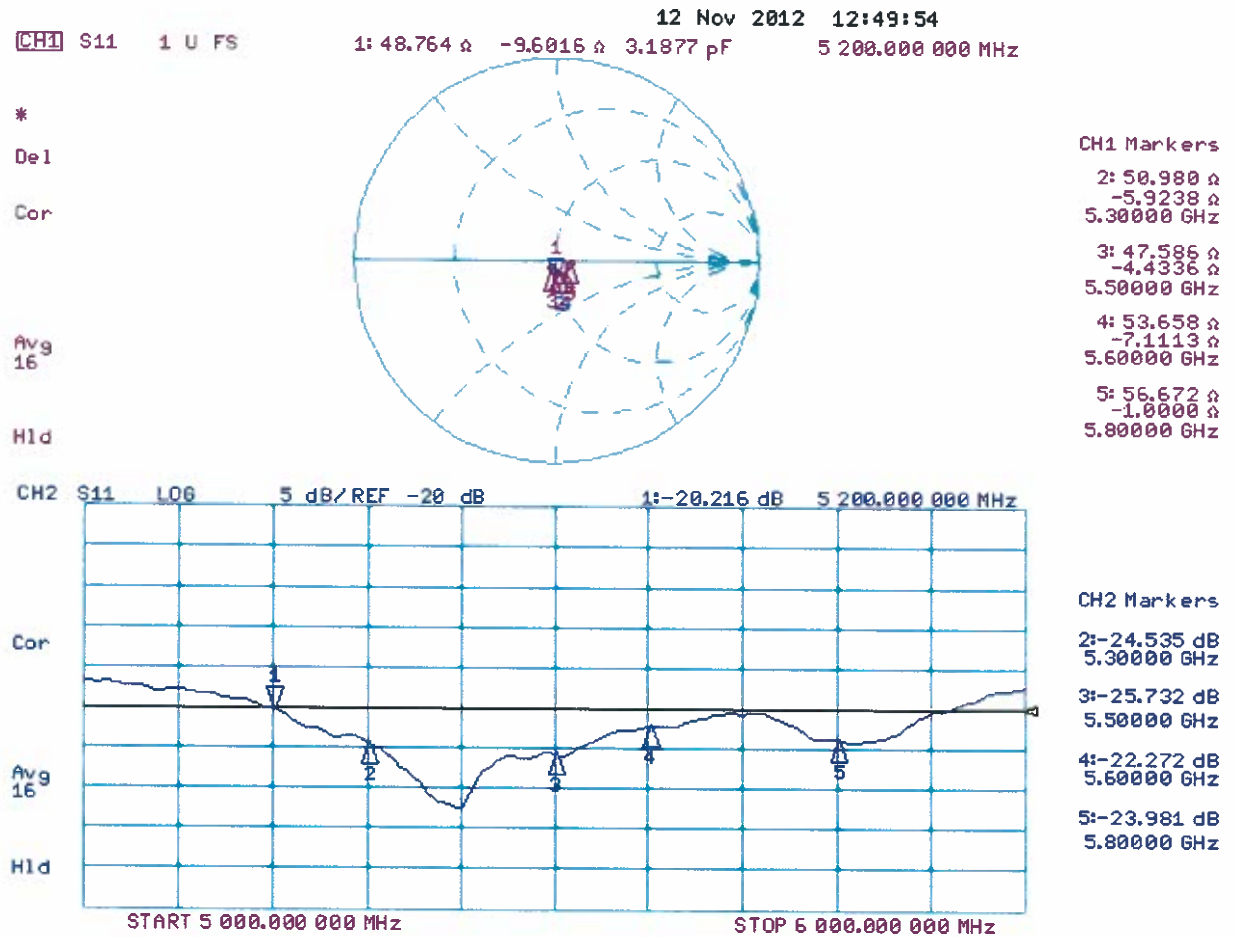
Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 58.795 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 35.9 W/kg
SAR(1 g) = 8.04 W/kg; SAR(10 g) = 2.23 W/kg
Maximum value of SAR (measured) = 20.1 W/kg

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 55.526 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 35.1 W/kg
SAR(1 g) = 7.46 W/kg; SAR(10 g) = 2.07 W/kg
Maximum value of SAR (measured) = 18.9 W/kg



0 dB = 18.9 W/kg = 12.76 dBW/kg

Impedance Measurement Plot for Body TSL



APPENDIX G: CONDUCTED POWER MEASUREMENTS FOR SUPPORTED LTE TRANSMISSION MODES

G.1 Power Tuning Targets

FULL POWER

Band	Target Tuning Power in Head, Body-worn and WR mode measurements					
	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
LTE700 (Band 17)	N/A	N/A	23.5	23.5	N/A	N/A
LTE750 (Band 13)	N/A	N/A	23.0	23.0	N/A	N/A
LTE850 (Band 5)	23.0	23.0	23.0	23.0	N/A	N/A
LTE1700/2100 (Band 4)	23.5	23.5	23.5	23.5	23.5	23.5
LTE1900 (Band 2)	23.5	23.5	23.5	23.5	23.5	23.5

REDUCED POWER

Band	Target Tuning Power in Head, Body-worn and WR mode measurements					
	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
LTE700 (Band 17)	N/A	N/A	20.7	20.7	N/A	N/A
LTE750 (Band 13)	N/A	N/A	20.5	20.5	N/A	N/A
LTE850 (Band 5)	20.0	20.0	20.0	20.0	N/A	N/A
LTE1700/2100 (Band 4)	17.3	17.3	17.3	17.3	17.3	17.3
LTE1900 (Band 2)	17.3	17.3	17.3	17.3	17.3	17.3

G.2 Conducted Power from the Samples used in the Testing

Type: RX-114; Serial number: 004402/47/351363/2 used for LTE700 (Band17) FULL POWER for Body-worn SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE700 (Band 17) in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
706.5	23755	5	1	0	QPSK	23.86	-
706.5	23755	5	1	12	QPSK	23.77	-
706.5	23755	5	1	24	QPSK	23.67	-
706.5	23755	5	12	0	QPSK	23.60	-
706.5	23755	5	12	6	QPSK	23.57	-
706.5	23755	5	12	13	QPSK	23.46	-
706.5	23755	5	25	0	QPSK	23.44	-
706.5	23755	5	1	0	16QAM	23.52	-
706.5	23755	5	1	12	16QAM	23.44	-
706.5	23755	5	1	24	16QAM	23.31	-
706.5	23755	5	12	0	16QAM	22.56	-
706.5	23755	5	12	6	16QAM	22.56	-
706.5	23755	5	12	13	16QAM	22.45	-
706.5	23755	5	25	0	16QAM	22.37	-
710.0	23790	5	1	0	QPSK	23.57	-
710.0	23790	5	1	12	QPSK	23.56	-
710.0	23790	5	1	24	QPSK	23.56	-
710.0	23790	5	12	0	QPSK	23.30	-
710.0	23790	5	12	6	QPSK	23.35	-
710.0	23790	5	12	13	QPSK	23.31	-
710.0	23790	5	25	0	QPSK	23.22	-
710.0	23790	5	1	0	16QAM	23.25	-
710.0	23790	5	1	12	16QAM	23.21	-
710.0	23790	5	1	24	16QAM	23.22	-
710.0	23790	5	12	0	16QAM	22.34	-
710.0	23790	5	12	6	16QAM	22.34	-
710.0	23790	5	12	13	16QAM	22.28	-
710.0	23790	5	25	0	16QAM	22.14	-

(Table LTE700, 004402/47/351363/2 continues)

(Table LTE700, 004402/47/351363/2 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
713.5	23825	5	1	0	QPSK	23.47	-
713.5	23825	5	1	12	QPSK	23.58	-
713.5	23825	5	1	24	QPSK	23.81	-
713.5	23825	5	12	0	QPSK	23.24	-
713.5	23825	5	12	6	QPSK	23.39	-
713.5	23825	5	12	13	QPSK	23.46	-
713.5	23825	5	25	0	QPSK	23.24	-
713.5	23825	5	1	0	16QAM	23.11	-
713.5	23825	5	1	12	16QAM	23.24	-
713.5	23825	5	1	24	16QAM	23.41	-
713.5	23825	5	12	0	16QAM	22.26	-
713.5	23825	5	12	6	16QAM	22.39	-
713.5	23825	5	12	13	16QAM	22.46	-
713.5	23825	5	25	0	16QAM	22.13	-
709.0	23780	10	1	0	QPSK	23.83	-
709.0	23780	10	1	24	QPSK	23.59	-
709.0	23780	10	1	49	QPSK	23.65	-
709.0	23780	10	25	0	QPSK	23.42	-
709.0	23780	10	25	12	QPSK	23.30	-
709.0	23780	10	25	25	QPSK	23.22	-
709.0	23780	10	50	0	QPSK	23.23	-
709.0	23780	10	1	0	16QAM	23.33	-
709.0	23780	10	1	24	16QAM	23.08	-
709.0	23780	10	1	49	16QAM	23.15	-
709.0	23780	10	25	0	16QAM	22.32	-
709.0	23780	10	25	12	16QAM	22.22	-
709.0	23780	10	25	25	16QAM	22.13	-
709.0	23780	10	50	0	16QAM	22.18	-

(Table LTE700, 004402/47/351363/2 continues)

(Table LTE700, 004402/47/351363/2 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
710.0	23790	10	1	0	QPSK	23.77	-
710.0	23790	10	1	24	QPSK	23.59	-
710.0	23790	10	1	49	QPSK	23.72	-
710.0	23790	10	25	0	QPSK	23.34	-
710.0	23790	10	25	12	QPSK	23.25	-
710.0	23790	10	25	25	QPSK	23.30	-
710.0	23790	10	50	0	QPSK	23.17	-
710.0	23790	10	1	0	16QAM	23.24	-
710.0	23790	10	1	24	16QAM	22.99	-
710.0	23790	10	1	49	16QAM	23.17	-
710.0	23790	10	25	0	16QAM	22.19	-
710.0	23790	10	25	12	16QAM	22.15	-
710.0	23790	10	25	25	16QAM	22.15	-
710.0	23790	10	50	0	16QAM	22.14	-
711.0	23800	10	1	0	QPSK	23.8	-
711.0	23800	10	1	24	QPSK	23.53	-
711.0	23800	10	1	49	QPSK	23.85	-
711.0	23800	10	25	0	QPSK	23.27	-
711.0	23800	10	25	12	QPSK	23.19	-
711.0	23800	10	25	25	QPSK	23.27	-
711.0	23800	10	50	0	QPSK	23.20	-
711.0	23800	10	1	0	16QAM	23.17	-
711.0	23800	10	1	24	16QAM	23.03	-
711.0	23800	10	1	49	16QAM	23.27	-
711.0	23800	10	25	0	16QAM	22.15	-
711.0	23800	10	25	12	16QAM	22.10	-
711.0	23800	10	25	25	16QAM	22.18	-
711.0	23800	10	50	0	16QAM	22.07	-

Type: RX-114; Serial number: 004402/47/351375/6 used for LTE700 (Band17) REDUCED POWER for Body-worn SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE700 (Band 17) in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
706.5	23755	5	1	0	QPSK	20.92	-
706.5	23755	5	1	12	QPSK	20.78	-
706.5	23755	5	1	24	QPSK	20.78	-
706.5	23755	5	12	0	QPSK	20.88	-
706.5	23755	5	12	6	QPSK	20.77	-
706.5	23755	5	12	13	QPSK	20.77	-
706.5	23755	5	25	0	QPSK	20.72	-
706.5	23755	5	1	0	16QAM	20.76	-
706.5	23755	5	1	12	16QAM	20.59	-
706.5	23755	5	1	24	16QAM	20.58	-
706.5	23755	5	12	0	16QAM	20.91	-
706.5	23755	5	12	6	16QAM	20.87	-
706.5	23755	5	12	13	16QAM	20.86	-
706.5	23755	5	25	0	16QAM	20.77	-
710.0	23790	5	1	0	QPSK	20.64	-
710.0	23790	5	1	12	QPSK	20.74	-
710.0	23790	5	1	24	QPSK	20.70	-
710.0	23790	5	12	0	QPSK	20.71	-
710.0	23790	5	12	6	QPSK	20.66	-
710.0	23790	5	12	13	QPSK	20.62	-
710.0	23790	5	25	0	QPSK	20.55	-
710.0	23790	5	1	0	16QAM	20.30	-
710.0	23790	5	1	12	16QAM	20.41	-
710.0	23790	5	1	24	16QAM	20.29	-
710.0	23790	5	12	0	16QAM	20.74	-
710.0	23790	5	12	6	16QAM	20.71	-
710.0	23790	5	12	13	16QAM	20.69	-
710.0	23790	5	25	0	16QAM	20.61	-

(Table LTE700, 004402/47/351375/6 continues)

(Table LTE700, 004402/47/351375/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
713.5	23825	5	1	0	QPSK	20.7	-
713.5	23825	5	1	12	QPSK	20.75	-
713.5	23825	5	1	24	QPSK	20.90	-
713.5	23825	5	12	0	QPSK	20.61	-
713.5	23825	5	12	6	QPSK	20.64	-
713.5	23825	5	12	13	QPSK	20.80	-
713.5	23825	5	25	0	QPSK	20.64	-
713.5	23825	5	1	0	16QAM	20.34	-
713.5	23825	5	1	12	16QAM	20.37	-
713.5	23825	5	1	24	16QAM	20.55	-
713.5	23825	5	12	0	16QAM	20.64	-
713.5	23825	5	12	6	16QAM	20.71	-
713.5	23825	5	12	13	16QAM	20.77	-
713.5	23825	5	25	0	16QAM	20.61	-
709.0	23780	10	1	0	QPSK	20.94	-
709.0	23780	10	1	24	QPSK	20.76	-
709.0	23780	10	1	49	QPSK	20.82	-
709.0	23780	10	25	0	QPSK	20.73	-
709.0	23780	10	25	12	QPSK	20.64	-
709.0	23780	10	25	25	QPSK	20.59	-
709.0	23780	10	50	0	QPSK	20.61	-
709.0	23780	10	1	0	16QAM	20.70	-
709.0	23780	10	1	24	16QAM	20.51	-
709.0	23780	10	1	49	16QAM	20.66	-
709.0	23780	10	25	0	16QAM	20.63	-
709.0	23780	10	25	12	16QAM	20.63	-
709.0	23780	10	25	25	16QAM	20.56	-
709.0	23780	10	50	0	16QAM	20.56	-

(Table LTE700, 004402/47/351375/6 continues)

(Table LTE700, 004402/47/351375/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
710.0	23790	10	1	0	QPSK	20.81	-
710.0	23790	10	1	24	QPSK	20.73	-
710.0	23790	10	1	49	QPSK	20.85	-
710.0	23790	10	25	0	QPSK	20.69	-
710.0	23790	10	25	12	QPSK	20.64	-
710.0	23790	10	25	25	QPSK	20.58	-
710.0	23790	10	50	0	QPSK	20.54	-
710.0	23790	10	1	0	16QAM	20.62	-
710.0	23790	10	1	24	16QAM	20.59	-
710.0	23790	10	1	49	16QAM	20.71	-
710.0	23790	10	25	0	16QAM	20.59	-
710.0	23790	10	25	12	16QAM	20.49	-
710.0	23790	10	25	25	16QAM	20.52	-
710.0	23790	10	50	0	16QAM	20.51	-
711.0	23800	10	1	0	QPSK	20.74	-
711.0	23800	10	1	24	QPSK	20.74	-
711.0	23800	10	1	49	QPSK	20.89	-
711.0	23800	10	25	0	QPSK	20.61	-
711.0	23800	10	25	12	QPSK	20.56	-
711.0	23800	10	25	25	QPSK	20.69	-
711.0	23800	10	50	0	QPSK	20.59	-
711.0	23800	10	1	0	16QAM	20.59	-
711.0	23800	10	1	24	16QAM	20.58	-
711.0	23800	10	1	49	16QAM	20.83	-
711.0	23800	10	25	0	16QAM	20.54	-
711.0	23800	10	25	12	16QAM	20.47	-
711.0	23800	10	25	25	16QAM	20.54	-
711.0	23800	10	50	0	16QAM	20.53	-

Type: RX-114; Serial number: 004402/47/351363/2 used for LTE750 (Band13) FULL POWER for Body-worn SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE750 (Band 13) in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
779.5	23205	5	1	0	QPSK	23.08	-
779.5	23205	5	1	12	QPSK	23.27	-
779.5	23205	5	1	24	QPSK	23.17	-
779.5	23205	5	12	0	QPSK	22.56	-
779.5	23205	5	12	6	QPSK	22.59	-
779.5	23205	5	12	13	QPSK	22.56	-
779.5	23205	5	25	0	QPSK	22.51	-
779.5	23205	5	1	0	16QAM	22.17	-
779.5	23205	5	1	12	16QAM	22.34	-
779.5	23205	5	1	24	16QAM	22.14	-
779.5	23205	5	12	0	16QAM	21.52	-
779.5	23205	5	12	6	16QAM	21.65	-
779.5	23205	5	12	13	16QAM	21.65	-
779.5	23205	5	25	0	16QAM	21.42	-
782.0	23230	5	1	0	QPSK	23.21	-
782.0	23230	5	1	12	QPSK	23.28	-
782.0	23230	5	1	24	QPSK	23.05	-
782.0	23230	5	12	0	QPSK	22.54	-
782.0	23230	5	12	6	QPSK	22.55	-
782.0	23230	5	12	13	QPSK	22.60	-
782.0	23230	5	25	0	QPSK	22.46	-
782.0	23230	5	1	0	16QAM	22.76	-
782.0	23230	5	1	12	16QAM	22.77	-
782.0	23230	5	1	24	16QAM	22.52	-
782.0	23230	5	12	0	16QAM	21.57	-
782.0	23230	5	12	6	16QAM	21.62	-
782.0	23230	5	12	13	16QAM	21.65	-
782.0	23230	5	25	0	16QAM	21.41	-

(Table LTE750, 004402/47/351363/2 continues)

(Table LTE750, 004402/47/351363/2 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
784.5	23255	5	1	0	QPSK	23.21	-
784.5	23255	5	1	12	QPSK	23.35	-
784.5	23255	5	1	24	QPSK	23.35	-
784.5	23255	5	12	0	QPSK	22.47	-
784.5	23255	5	12	6	QPSK	22.58	-
784.5	23255	5	12	13	QPSK	22.67	-
784.5	23255	5	25	0	QPSK	22.43	-
784.5	23255	5	1	0	16QAM	22.18	-
784.5	23255	5	1	12	16QAM	22.38	-
784.5	23255	5	1	24	16QAM	22.37	-
784.5	23255	5	12	0	16QAM	21.55	-
784.5	23255	5	12	6	16QAM	21.58	-
784.5	23255	5	12	13	16QAM	21.66	-
784.5	23255	5	25	0	16QAM	21.39	-
782.0	23230	10	1	0	QPSK	23.17	-
782.0	23230	10	1	24	QPSK	23.22	-
782.0	23230	10	1	49	QPSK	23.30	-
782.0	23230	10	25	0	QPSK	22.50	-
782.0	23230	10	25	12	QPSK	22.48	-
782.0	23230	10	25	25	QPSK	22.49	-
782.0	23230	10	50	0	QPSK	22.41	-
782.0	23230	10	1	0	16QAM	22.46	-
782.0	23230	10	1	24	16QAM	22.50	-
782.0	23230	10	1	49	16QAM	22.60	-
782.0	23230	10	25	0	16QAM	21.49	-
782.0	23230	10	25	12	16QAM	21.56	-
782.0	23230	10	25	25	16QAM	21.57	-
782.0	23230	10	50	0	16QAM	21.45	-

Type: RX-114; Serial number: 004402/47/351375/6 used for LTE750 (Band13) REDUCED POWER for Body-worn SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE750 (Band 13) in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
779.5	23205	5	1	0	QPSK	20.53	-
779.5	23205	5	1	12	QPSK	20.50	-
779.5	23205	5	1	24	QPSK	20.39	-
779.5	23205	5	12	0	QPSK	20.45	-
779.5	23205	5	12	6	QPSK	20.44	-
779.5	23205	5	12	13	QPSK	20.42	-
779.5	23205	5	25	0	QPSK	20.36	-
779.5	23205	5	1	0	16QAM	20.61	-
779.5	23205	5	1	12	16QAM	20.58	-
779.5	23205	5	1	24	16QAM	20.51	-
779.5	23205	5	12	0	16QAM	20.41	-
779.5	23205	5	12	6	16QAM	20.38	-
779.5	23205	5	12	13	16QAM	20.40	-
779.5	23205	5	25	0	16QAM	20.29	-
782.0	23230	5	1	0	QPSK	20.45	-
782.0	23230	5	1	12	QPSK	20.48	-
782.0	23230	5	1	24	QPSK	20.45	-
782.0	23230	5	12	0	QPSK	20.39	-
782.0	23230	5	12	6	QPSK	20.43	-
782.0	23230	5	12	13	QPSK	20.35	-
782.0	23230	5	25	0	QPSK	20.32	-
782.0	23230	5	1	0	16QAM	20.50	-
782.0	23230	5	1	12	16QAM	20.58	-
782.0	23230	5	1	24	16QAM	20.53	-
782.0	23230	5	12	0	16QAM	20.37	-
782.0	23230	5	12	6	16QAM	20.36	-
782.0	23230	5	12	13	16QAM	20.35	-
782.0	23230	5	25	0	16QAM	20.33	-

(Table LTE750, 004402/47/351375/6 continues)

(Table LTE750, 004402/47/351375/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
784.5	23255	5	1	0	QPSK	20.45	-
784.5	23255	5	1	12	QPSK	20.51	-
784.5	23255	5	1	24	QPSK	20.70	-
784.5	23255	5	12	0	QPSK	20.32	-
784.5	23255	5	12	6	QPSK	20.46	-
784.5	23255	5	12	13	QPSK	20.49	-
784.5	23255	5	25	0	QPSK	20.32	-
784.5	23255	5	1	0	16QAM	20.50	-
784.5	23255	5	1	12	16QAM	20.59	-
784.5	23255	5	1	24	16QAM	20.78	-
784.5	23255	5	12	0	16QAM	20.31	-
784.5	23255	5	12	6	16QAM	20.40	-
784.5	23255	5	12	13	16QAM	20.42	-
784.5	23255	5	25	0	16QAM	20.32	-
782.0	23230	10	1	0	QPSK	20.49	-
782.0	23230	10	1	24	QPSK	20.48	-
782.0	23230	10	1	49	QPSK	20.62	-
782.0	23230	10	25	0	QPSK	20.36	-
782.0	23230	10	25	12	QPSK	20.36	-
782.0	23230	10	25	25	QPSK	20.29	-
782.0	23230	10	50	0	QPSK	20.38	-
782.0	23230	10	1	0	16QAM	20.62	-
782.0	23230	10	1	24	16QAM	20.59	-
782.0	23230	10	1	49	16QAM	20.81	-
782.0	23230	10	25	0	16QAM	20.35	-
782.0	23230	10	25	12	16QAM	20.39	-
782.0	23230	10	25	25	16QAM	20.31	-
782.0	23230	10	50	0	16QAM	20.30	-

Type: RX-114; Serial number: 004402/47/351342/6 used for LTE850 (Band 5) FULL POWER for Body-worn SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE850 (Band 5) in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
824.7	20407	1.4	1	0	QPSK	23.72	-
824.7	20407	1.4	1	2	QPSK	23.75	-
824.7	20407	1.4	1	5	QPSK	23.77	-
824.7	20407	1.4	3	0	QPSK	23.65	-
824.7	20407	1.4	3	2	QPSK	23.64	-
824.7	20407	1.4	3	3	QPSK	23.61	-
824.7	20407	1.4	6	0	QPSK	23.09	-
824.7	20407	1.4	1	0	16QAM	23.14	-
824.7	20407	1.4	1	2	16QAM	23.13	-
824.7	20407	1.4	1	5	16QAM	23.29	-
824.7	20407	1.4	3	0	16QAM	23.04	-
824.7	20407	1.4	3	2	16QAM	23.02	-
824.7	20407	1.4	3	3	16QAM	23.03	-
824.7	20407	1.4	6	0	16QAM	22.12	-
836.5	20525	1.4	1	0	QPSK	23.67	-
836.5	20525	1.4	1	2	QPSK	23.64	-
836.5	20525	1.4	1	5	QPSK	23.67	-
836.5	20525	1.4	3	0	QPSK	23.65	-
836.5	20525	1.4	3	2	QPSK	23.56	-
836.5	20525	1.4	3	3	QPSK	23.62	-
836.5	20525	1.4	6	0	QPSK	22.98	-
836.5	20525	1.4	1	0	16QAM	23.14	-
836.5	20525	1.4	1	2	16QAM	23.16	-
836.5	20525	1.4	1	5	16QAM	23.20	-
836.5	20525	1.4	3	0	16QAM	23.04	-
836.5	20525	1.4	3	2	16QAM	23.03	-
836.5	20525	1.4	3	3	16QAM	23.04	-
836.5	20525	1.4	6	0	16QAM	22.01	-

(Table LTE850, 004402/47/351342/6 continues)

(Table LTE850, 004402/47/351342/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
848.3	20643	1.4	1	0	QPSK	23.73	-
848.3	20643	1.4	1	2	QPSK	23.74	-
848.3	20643	1.4	1	5	QPSK	23.74	-
848.3	20643	1.4	3	0	QPSK	23.75	-
848.3	20643	1.4	3	2	QPSK	23.72	-
848.3	20643	1.4	3	3	QPSK	23.75	-
848.3	20643	1.4	6	0	QPSK	23.12	-
848.3	20643	1.4	1	0	16QAM	23.25	-
848.3	20643	1.4	1	2	16QAM	23.25	-
848.3	20643	1.4	1	5	16QAM	23.25	-
848.3	20643	1.4	3	0	16QAM	23.15	-
848.3	20643	1.4	3	2	16QAM	23.17	-
848.3	20643	1.4	3	3	16QAM	23.14	-
848.3	20643	1.4	6	0	16QAM	22.14	-
825.5	20415	3	1	0	QPSK	23.64	-
825.5	20415	3	1	7	QPSK	23.74	-
825.5	20415	3	1	14	QPSK	23.61	-
825.5	20415	3	8	0	QPSK	23.02	-
825.5	20415	3	8	3	QPSK	23.09	-
825.5	20415	3	8	7	QPSK	23.08	-
825.5	20415	3	15	0	QPSK	22.98	-
825.5	20415	3	1	0	16QAM	22.86	-
825.5	20415	3	1	7	16QAM	22.96	-
825.5	20415	3	1	14	16QAM	22.92	-
825.5	20415	3	8	0	16QAM	21.96	-
825.5	20415	3	8	3	16QAM	22.08	-
825.5	20415	3	8	7	16QAM	22.05	-
825.5	20415	3	15	0	16QAM	22.02	-

(Table LTE850, 004402/47/351342/6 continues)

(Table LTE850, 004402/47/351342/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
836.5	20525	3	1	0	QPSK	23.61	-
836.5	20525	3	1	7	QPSK	23.59	-
836.5	20525	3	1	14	QPSK	23.64	-
836.5	20525	3	8	0	QPSK	23.00	-
836.5	20525	3	8	3	QPSK	22.98	-
836.5	20525	3	8	7	QPSK	22.94	-
836.5	20525	3	15	0	QPSK	22.87	-
836.5	20525	3	1	0	16QAM	22.84	-
836.5	20525	3	1	7	16QAM	22.85	-
836.5	20525	3	1	14	16QAM	22.85	-
836.5	20525	3	8	0	16QAM	21.92	-
836.5	20525	3	8	3	16QAM	21.97	-
836.5	20525	3	8	7	16QAM	21.99	-
836.5	20525	3	15	0	16QAM	22.03	-
847.5	20635	3	1	0	QPSK	23.69	-
847.5	20635	3	1	7	QPSK	23.71	-
847.5	20635	3	1	14	QPSK	23.75	-
847.5	20635	3	8	0	QPSK	23.06	-
847.5	20635	3	8	3	QPSK	23.11	-
847.5	20635	3	8	7	QPSK	23.11	-
847.5	20635	3	15	0	QPSK	23.04	-
847.5	20635	3	1	0	16QAM	22.87	-
847.5	20635	3	1	7	16QAM	22.96	-
847.5	20635	3	1	14	16QAM	22.86	-
847.5	20635	3	8	0	16QAM	22.12	-
847.5	20635	3	8	3	16QAM	22.11	-
847.5	20635	3	8	7	16QAM	22.11	-
847.5	20635	3	15	0	16QAM	22.15	-

(Table LTE850, 004402/47/351342/6 continues)

(Table LTE850, 004402/47/351342/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
826.5	20425	5	1	0	QPSK	23.62	-
826.5	20425	5	1	12	QPSK	23.64	-
826.5	20425	5	1	24	QPSK	23.64	-
826.5	20425	5	12	0	QPSK	23.07	-
826.5	20425	5	12	6	QPSK	23.03	-
826.5	20425	5	12	13	QPSK	22.95	-
826.5	20425	5	25	0	QPSK	22.91	-
826.5	20425	5	1	0	16QAM	22.67	-
826.5	20425	5	1	12	16QAM	22.70	-
826.5	20425	5	1	24	16QAM	22.69	-
826.5	20425	5	12	0	16QAM	22.10	-
826.5	20425	5	12	6	16QAM	22.04	-
826.5	20425	5	12	13	16QAM	21.98	-
826.5	20425	5	25	0	16QAM	21.85	-
836.5	20525	5	1	0	QPSK	23.58	-
836.5	20525	5	1	12	QPSK	23.64	-
836.5	20525	5	1	24	QPSK	23.62	-
836.5	20525	5	12	0	QPSK	22.90	-
836.5	20525	5	12	6	QPSK	22.93	-
836.5	20525	5	12	13	QPSK	22.96	-
836.5	20525	5	25	0	QPSK	22.81	-
836.5	20525	5	1	0	16QAM	22.70	-
836.5	20525	5	1	12	16QAM	22.66	-
836.5	20525	5	1	24	16QAM	22.70	-
836.5	20525	5	12	0	16QAM	22.01	-
836.5	20525	5	12	6	16QAM	21.99	-
836.5	20525	5	12	13	16QAM	22.02	-
836.5	20525	5	25	0	16QAM	21.87	-

(Table LTE850, 004402/47/351342/6 continues)

(Table LTE850, 004402/47/351342/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
846.5	20625	5	1	0	QPSK	23.65	-
846.5	20625	5	1	12	QPSK	23.70	-
846.5	20625	5	1	24	QPSK	23.75	-
846.5	20625	5	12	0	QPSK	22.97	-
846.5	20625	5	12	6	QPSK	23.08	-
846.5	20625	5	12	13	QPSK	23.11	-
846.5	20625	5	25	0	QPSK	22.97	-
846.5	20625	5	1	0	16QAM	22.83	-
846.5	20625	5	1	12	16QAM	22.92	-
846.5	20625	5	1	24	16QAM	22.95	-
846.5	20625	5	12	0	16QAM	21.99	-
846.5	20625	5	12	6	16QAM	22.06	-
846.5	20625	5	12	13	16QAM	22.07	-
846.5	20625	5	25	0	16QAM	21.97	-
829.0	20450	10	1	0	QPSK	23.65	-
829.0	20450	10	1	24	QPSK	23.63	-
829.0	20450	10	1	49	QPSK	23.71	-
829.0	20450	10	25	0	QPSK	22.88	-
829.0	20450	10	25	12	QPSK	22.87	-
829.0	20450	10	25	25	QPSK	22.91	-
829.0	20450	10	50	0	QPSK	22.76	-
829.0	20450	10	1	0	16QAM	22.81	-
829.0	20450	10	1	24	16QAM	22.81	-
829.0	20450	10	1	49	16QAM	22.89	-
829.0	20450	10	25	0	16QAM	21.82	-
829.0	20450	10	25	12	16QAM	21.86	-
829.0	20450	10	25	25	16QAM	21.92	-
829.0	20450	10	50	0	16QAM	21.71	-

(Table LTE850, 004402/47/351342/6 continues)

(Table LTE850, 004402/47/351342/6 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
836.5	20525	10	1	0	QPSK	23.7	-
836.5	20525	10	1	24	QPSK	23.65	-
836.5	20525	10	1	49	QPSK	23.61	-
836.5	20525	10	25	0	QPSK	22.85	-
836.5	20525	10	25	12	QPSK	22.8	-
836.5	20525	10	25	25	QPSK	22.84	-
836.5	20525	10	50	0	QPSK	22.69	-
836.5	20525	10	1	0	16QAM	22.93	-
836.5	20525	10	1	24	16QAM	22.85	-
836.5	20525	10	1	49	16QAM	22.81	-
836.5	20525	10	25	0	16QAM	21.79	-
836.5	20525	10	25	12	16QAM	21.84	-
836.5	20525	10	25	25	16QAM	21.77	-
836.5	20525	10	50	0	16QAM	21.68	-
844.0	20600	10	1	0	QPSK	23.60	-
844.0	20600	10	1	24	QPSK	23.58	-
844.0	20600	10	1	49	QPSK	23.73	-
844.0	20600	10	25	0	QPSK	22.79	-
844.0	20600	10	25	12	QPSK	22.88	-
844.0	20600	10	25	25	QPSK	22.95	-
844.0	20600	10	50	0	QPSK	22.70	-
844.0	20600	10	1	0	16QAM	22.91	-
844.0	20600	10	1	24	16QAM	22.88	-
844.0	20600	10	1	49	16QAM	23.05	-
844.0	20600	10	25	0	16QAM	21.70	-
844.0	20600	10	25	12	16QAM	21.77	-
844.0	20600	10	25	25	16QAM	21.90	-
844.0	20600	10	50	0	16QAM	21.71	-

Type: RX-114; Serial number: 004402/47/351393/9 used for LTE850 (Band 5) REDUCED POWER for Body-worn SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE850 (Band 5) in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
824.7	20407	1.4	1	0	QPSK	20.08	-
824.7	20407	1.4	1	2	QPSK	20.07	-
824.7	20407	1.4	1	5	QPSK	20.09	-
824.7	20407	1.4	3	0	QPSK	20.17	-
824.7	20407	1.4	3	2	QPSK	20.15	-
824.7	20407	1.4	3	3	QPSK	20.15	-
824.7	20407	1.4	6	0	QPSK	20.09	-
824.7	20407	1.4	1	0	16QAM	20.02	-
824.7	20407	1.4	1	2	16QAM	19.98	-
824.7	20407	1.4	1	5	16QAM	19.96	-
824.7	20407	1.4	3	0	16QAM	20.17	-
824.7	20407	1.4	3	2	16QAM	20.17	-
824.7	20407	1.4	3	3	16QAM	20.19	-
824.7	20407	1.4	6	0	16QAM	20.09	-
836.5	20525	1.4	1	0	QPSK	20.11	-
836.5	20525	1.4	1	2	QPSK	20.08	-
836.5	20525	1.4	1	5	QPSK	20.13	-
836.5	20525	1.4	3	0	QPSK	20.18	-
836.5	20525	1.4	3	2	QPSK	20.15	-
836.5	20525	1.4	3	3	QPSK	20.13	-
836.5	20525	1.4	6	0	QPSK	20.15	-
836.5	20525	1.4	1	0	16QAM	19.98	-
836.5	20525	1.4	1	2	16QAM	19.97	-
836.5	20525	1.4	1	5	16QAM	19.88	-
836.5	20525	1.4	3	0	16QAM	20.18	-
836.5	20525	1.4	3	2	16QAM	20.18	-
836.5	20525	1.4	3	3	16QAM	20.21	-
836.5	20525	1.4	6	0	16QAM	20.11	-

(Table LTE850, 004402/47/351393/9 continues)

(Table LTE850, 004402/47/351393/9 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
848.3	20643	1.4	1	0	QPSK	20.07	-
848.3	20643	1.4	1	2	QPSK	20.03	-
848.3	20643	1.4	1	5	QPSK	20.05	-
848.3	20643	1.4	3	0	QPSK	20.09	-
848.3	20643	1.4	3	2	QPSK	20.08	-
848.3	20643	1.4	3	3	QPSK	20.06	-
848.3	20643	1.4	6	0	QPSK	20.13	-
848.3	20643	1.4	1	0	16QAM	19.72	-
848.3	20643	1.4	1	2	16QAM	19.70	-
848.3	20643	1.4	1	5	16QAM	19.73	-
848.3	20643	1.4	3	0	16QAM	20.11	-
848.3	20643	1.4	3	2	16QAM	20.16	-
848.3	20643	1.4	3	3	16QAM	20.10	-
848.3	20643	1.4	6	0	16QAM	20.00	-
825.5	20415	3	1	0	QPSK	20.11	-
825.5	20415	3	1	7	QPSK	20.10	-
825.5	20415	3	1	14	QPSK	20.14	-
825.5	20415	3	8	0	QPSK	20.07	-
825.5	20415	3	8	3	QPSK	20.07	-
825.5	20415	3	8	7	QPSK	20.04	-
825.5	20415	3	15	0	QPSK	20.04	-
825.5	20415	3	1	0	16QAM	19.84	-
825.5	20415	3	1	7	16QAM	19.75	-
825.5	20415	3	1	14	16QAM	19.85	-
825.5	20415	3	8	0	16QAM	20.01	-
825.5	20415	3	8	3	16QAM	19.99	-
825.5	20415	3	8	7	16QAM	19.98	-
825.5	20415	3	15	0	16QAM	20.04	-

(Table LTE850, 004402/47/351393/9 continues)

(Table LTE850, 004402/47/351393/9 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
836.5	20525	3	1	0	QPSK	20.19	-
836.5	20525	3	1	7	QPSK	20.20	-
836.5	20525	3	1	14	QPSK	20.20	-
836.5	20525	3	8	0	QPSK	20.13	-
836.5	20525	3	8	3	QPSK	20.14	-
836.5	20525	3	8	7	QPSK	20.12	-
836.5	20525	3	15	0	QPSK	20.08	-
836.5	20525	3	1	0	16QAM	19.95	-
836.5	20525	3	1	7	16QAM	19.93	-
836.5	20525	3	1	14	16QAM	19.87	-
836.5	20525	3	8	0	16QAM	20.00	-
836.5	20525	3	8	3	16QAM	20.01	-
836.5	20525	3	8	7	16QAM	20.00	-
836.5	20525	3	15	0	16QAM	19.98	-
847.5	20635	3	1	0	QPSK	20.10	-
847.5	20635	3	1	7	QPSK	20.12	-
847.5	20635	3	1	14	QPSK	20.13	-
847.5	20635	3	8	0	QPSK	20.09	-
847.5	20635	3	8	3	QPSK	19.99	-
847.5	20635	3	8	7	QPSK	20.07	-
847.5	20635	3	15	0	QPSK	20.04	-
847.5	20635	3	1	0	16QAM	19.83	-
847.5	20635	3	1	7	16QAM	19.84	-
847.5	20635	3	1	14	16QAM	19.85	-
847.5	20635	3	8	0	16QAM	19.92	-
847.5	20635	3	8	3	16QAM	19.93	-
847.5	20635	3	8	7	16QAM	19.93	-
847.5	20635	3	15	0	16QAM	19.92	-

(Table LTE850, 004402/47/351393/9 continues)

(Table LTE850, 004402/47/351393/9 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
826.5	20425	5	1	0	QPSK	20.18	-
826.5	20425	5	1	12	QPSK	20.25	-
826.5	20425	5	1	24	QPSK	20.11	-
826.5	20425	5	12	0	QPSK	20.07	-
826.5	20425	5	12	6	QPSK	20.10	-
826.5	20425	5	12	13	QPSK	20.22	-
826.5	20425	5	25	0	QPSK	20.07	-
826.5	20425	5	1	0	16QAM	20.08	-
826.5	20425	5	1	12	16QAM	20.01	-
826.5	20425	5	1	24	16QAM	19.94	-
826.5	20425	5	12	0	16QAM	20.09	-
826.5	20425	5	12	6	16QAM	20.16	-
826.5	20425	5	12	13	16QAM	20.20	-
826.5	20425	5	25	0	16QAM	19.94	-
836.5	20525	5	1	0	QPSK	20.13	-
836.5	20525	5	1	12	QPSK	20.13	-
836.5	20525	5	1	24	QPSK	20.11	-
836.5	20525	5	12	0	QPSK	20.07	-
836.5	20525	5	12	6	QPSK	20.14	-
836.5	20525	5	12	13	QPSK	20.09	-
836.5	20525	5	25	0	QPSK	20.00	-
836.5	20525	5	1	0	16QAM	20.04	-
836.5	20525	5	1	12	16QAM	19.99	-
836.5	20525	5	1	24	16QAM	19.98	-
836.5	20525	5	12	0	16QAM	20.13	-
836.5	20525	5	12	6	16QAM	20.13	-
836.5	20525	5	12	13	16QAM	20.08	-
836.5	20525	5	25	0	16QAM	19.90	-

(Table LTE850, 004402/47/351393/9 continues)

(Table LTE850, 004402/47/351393/9 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
846.5	20625	5	1	0	QPSK	20.08	-
846.5	20625	5	1	12	QPSK	20.00	-
846.5	20625	5	1	24	QPSK	20.04	-
846.5	20625	5	12	0	QPSK	20.11	-
846.5	20625	5	12	6	QPSK	20.06	-
846.5	20625	5	12	13	QPSK	20.03	-
846.5	20625	5	25	0	QPSK	19.92	-
846.5	20625	5	1	0	16QAM	19.98	-
846.5	20625	5	1	12	16QAM	19.87	-
846.5	20625	5	1	24	16QAM	19.95	-
846.5	20625	5	12	0	16QAM	20.14	-
846.5	20625	5	12	6	16QAM	20.00	-
846.5	20625	5	12	13	16QAM	20.06	-
846.5	20625	5	25	0	16QAM	19.86	-
829.0	20450	10	1	0	QPSK	20.12	-
829.0	20450	10	1	24	QPSK	20.08	-
829.0	20450	10	1	49	QPSK	20.21	-
829.0	20450	10	25	0	QPSK	20.02	-
829.0	20450	10	25	12	QPSK	20.05	-
829.0	20450	10	25	25	QPSK	20.17	-
829.0	20450	10	50	0	QPSK	20.01	-
829.0	20450	10	1	0	16QAM	20.42	-
829.0	20450	10	1	24	16QAM	20.21	-
829.0	20450	10	1	49	16QAM	20.33	-
829.0	20450	10	25	0	16QAM	19.99	-
829.0	20450	10	25	12	16QAM	20.04	-
829.0	20450	10	25	25	16QAM	20.11	-
829.0	20450	10	50	0	16QAM	19.97	-

(Table LTE850, 004402/47/351393/9 continues)

(Table LTE850, 004402/47/351393/9 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
836.5	20525	10	1	0	QPSK	20.14	-
836.5	20525	10	1	24	QPSK	20.19	-
836.5	20525	10	1	49	QPSK	20.09	-
836.5	20525	10	25	0	QPSK	20.09	-
836.5	20525	10	25	12	QPSK	20.08	-
836.5	20525	10	25	25	QPSK	20.04	-
836.5	20525	10	50	0	QPSK	19.99	-
836.5	20525	10	1	0	16QAM	20.33	-
836.5	20525	10	1	24	16QAM	20.35	-
836.5	20525	10	1	49	16QAM	20.31	-
836.5	20525	10	25	0	16QAM	20.04	-
836.5	20525	10	25	12	16QAM	20.05	-
836.5	20525	10	25	25	16QAM	20.06	-
836.5	20525	10	50	0	16QAM	19.98	-
844.0	20600	10	1	0	QPSK	20.18	-
844.0	20600	10	1	24	QPSK	20.08	-
844.0	20600	10	1	49	QPSK	20.10	-
844.0	20600	10	25	0	QPSK	20.04	-
844.0	20600	10	25	12	QPSK	20.00	-
844.0	20600	10	25	25	QPSK	19.98	-
844.0	20600	10	50	0	QPSK	19.97	-
844.0	20600	10	1	0	16QAM	20.39	-
844.0	20600	10	1	24	16QAM	20.29	-
844.0	20600	10	1	49	16QAM	20.32	-
844.0	20600	10	25	0	16QAM	20.06	-
844.0	20600	10	25	12	16QAM	20.02	-
844.0	20600	10	25	25	16QAM	19.97	-
844.0	20600	10	50	0	16QAM	19.98	-

Type: RX-114; Serial number: 004402/47/351347/5 used for LTE1700/2100 (Band 4) FULL POWER for Body-worn SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE1700/2100 (Band 4) in 1.4MHz Channel BW in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1710.7	19957	1.4	1	0	QPSK	23.71	-
1710.7	19957	1.4	1	2	QPSK	23.62	-
1710.7	19957	1.4	1	5	QPSK	23.66	-
1710.7	19957	1.4	3	0	QPSK	23.69	-
1710.7	19957	1.4	3	2	QPSK	23.65	-
1710.7	19957	1.4	3	3	QPSK	23.59	-
1710.7	19957	1.4	6	0	QPSK	23.08	-
1710.7	19957	1.4	1	0	16QAM	23.31	-
1710.7	19957	1.4	1	2	16QAM	23.31	-
1710.7	19957	1.4	1	5	16QAM	23.32	-
1710.7	19957	1.4	3	0	16QAM	23.15	-
1710.7	19957	1.4	3	2	16QAM	23.18	-
1710.7	19957	1.4	3	3	16QAM	23.11	-
1710.7	19957	1.4	6	0	16QAM	22.23	-
1732.5	20175	1.4	1	0	QPSK	23.62	-
1732.5	20175	1.4	1	2	QPSK	23.68	-
1732.5	20175	1.4	1	5	QPSK	23.75	-
1732.5	20175	1.4	3	0	QPSK	23.65	-
1732.5	20175	1.4	3	2	QPSK	23.62	-
1732.5	20175	1.4	3	3	QPSK	23.75	-
1732.5	20175	1.4	6	0	QPSK	23.19	-
1732.5	20175	1.4	1	0	16QAM	23.32	-
1732.5	20175	1.4	1	2	16QAM	23.30	-
1732.5	20175	1.4	1	5	16QAM	23.37	-
1732.5	20175	1.4	3	0	16QAM	23.19	-
1732.5	20175	1.4	3	2	16QAM	23.13	-
1732.5	20175	1.4	3	3	16QAM	23.27	-
1732.5	20175	1.4	6	0	16QAM	22.16	-

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1754.3	20393	1.4	1	0	QPSK	23.70	-
1754.3	20393	1.4	1	2	QPSK	23.73	-
1754.3	20393	1.4	1	5	QPSK	23.73	-
1754.3	20393	1.4	3	0	QPSK	23.75	-
1754.3	20393	1.4	3	2	QPSK	23.70	-
1754.3	20393	1.4	3	3	QPSK	23.72	-
1754.3	20393	1.4	6	0	QPSK	23.28	-
1754.3	20393	1.4	1	0	16QAM	23.36	-
1754.3	20393	1.4	1	2	16QAM	23.40	-
1754.3	20393	1.4	1	5	16QAM	23.35	-
1754.3	20393	1.4	3	0	16QAM	23.30	-
1754.3	20393	1.4	3	2	16QAM	23.30	-
1754.3	20393	1.4	3	3	16QAM	23.32	-
1754.3	20393	1.4	6	0	16QAM	22.30	-
1711.5	19965	3	1	0	QPSK	23.67	23.68
1711.5	19965	3	1	7	QPSK	23.66	23.59
1711.5	19965	3	1	14	QPSK	23.63	23.63
1711.5	19965	3	8	0	QPSK	23.11	22.17
1711.5	19965	3	8	3	QPSK	23.13	22.15
1711.5	19965	3	8	7	QPSK	23.08	22.18
1711.5	19965	3	15	0	QPSK	23.05	22.11
1711.5	19965	3	1	0	16QAM	22.85	23.30
1711.5	19965	3	1	7	16QAM	22.78	23.30
1711.5	19965	3	1	14	16QAM	22.78	23.24
1711.5	19965	3	8	0	16QAM	22.21	21.16
1711.5	19965	3	8	3	16QAM	22.15	21.13
1711.5	19965	3	8	7	16QAM	22.18	21.16
1711.5	19965	3	15	0	16QAM	22.16	21.14

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1732.5	20175	3	1	0	QPSK	23.66	23.62
1732.5	20175	3	1	7	QPSK	23.73	23.73
1732.5	20175	3	1	14	QPSK	23.71	23.68
1732.5	20175	3	8	0	QPSK	23.21	22.13
1732.5	20175	3	8	3	QPSK	23.17	22.14
1732.5	20175	3	8	7	QPSK	23.25	22.18
1732.5	20175	3	15	0	QPSK	23.09	22.10
1732.5	20175	3	1	0	16QAM	23.03	23.21
1732.5	20175	3	1	7	16QAM	23.15	23.26
1732.5	20175	3	1	14	16QAM	22.98	23.21
1732.5	20175	3	8	0	16QAM	22.19	21.04
1732.5	20175	3	8	3	16QAM	22.15	21.04
1732.5	20175	3	8	7	16QAM	22.22	21.11
1732.5	20175	3	15	0	16QAM	22.18	20.97
1753.5	20385	3	1	0	QPSK	23.65	23.69
1753.5	20385	3	1	7	QPSK	23.67	23.66
1753.5	20385	3	1	14	QPSK	23.71	23.70
1753.5	20385	3	8	0	QPSK	23.28	22.28
1753.5	20385	3	8	3	QPSK	23.23	22.24
1753.5	20385	3	8	7	QPSK	23.29	22.23
1753.5	20385	3	15	0	QPSK	23.17	22.21
1753.5	20385	3	1	0	16QAM	22.93	23.36
1753.5	20385	3	1	7	16QAM	22.94	23.39
1753.5	20385	3	1	14	16QAM	22.95	23.38
1753.5	20385	3	8	0	16QAM	22.26	21.22
1753.5	20385	3	8	3	16QAM	22.27	21.22
1753.5	20385	3	8	7	16QAM	22.27	21.20
1753.5	20385	3	15	0	16QAM	22.25	21.21

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1712.5	19975	5	1	0	QPSK	23.68	23.65
1712.5	19975	5	1	12	QPSK	23.65	23.60
1712.5	19975	5	1	24	QPSK	23.67	23.71
1712.5	19975	5	12	0	QPSK	23.09	22.13
1712.5	19975	5	12	6	QPSK	23.06	22.15
1712.5	19975	5	12	13	QPSK	23.06	22.15
1712.5	19975	5	25	0	QPSK	22.99	22.00
1712.5	19975	5	1	0	16QAM	22.94	22.99
1712.5	19975	5	1	12	16QAM	22.92	23.00
1712.5	19975	5	1	24	16QAM	23.01	23.05
1712.5	19975	5	12	0	16QAM	22.21	21.25
1712.5	19975	5	12	6	16QAM	22.15	21.20
1712.5	19975	5	12	13	16QAM	22.08	21.23
1712.5	19975	5	25	0	16QAM	22.08	21.10
1732.5	20175	5	1	0	QPSK	23.64	23.60
1732.5	20175	5	1	12	QPSK	23.70	23.68
1732.5	20175	5	1	24	QPSK	23.73	23.68
1732.5	20175	5	12	0	QPSK	23.14	22.16
1732.5	20175	5	12	6	QPSK	23.14	22.14
1732.5	20175	5	12	13	QPSK	23.22	22.18
1732.5	20175	5	25	0	QPSK	23.07	22.03
1732.5	20175	5	1	0	16QAM	22.99	23.02
1732.5	20175	5	1	12	16QAM	22.95	23.10
1732.5	20175	5	1	24	16QAM	22.98	23.09
1732.5	20175	5	12	0	16QAM	22.17	21.15
1732.5	20175	5	12	6	16QAM	22.15	21.23
1732.5	20175	5	12	13	16QAM	22.21	21.25
1732.5	20175	5	25	0	16QAM	22.07	21.05

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1752.5	20375	5	1	0	QPSK	23.72	23.75
1752.5	20375	5	1	12	QPSK	23.69	23.68
1752.5	20375	5	1	24	QPSK	23.70	23.74
1752.5	20375	5	12	0	QPSK	23.21	22.18
1752.5	20375	5	12	6	QPSK	23.20	22.24
1752.5	20375	5	12	13	QPSK	23.25	22.28
1752.5	20375	5	25	0	QPSK	23.09	22.14
1752.5	20375	5	1	0	16QAM	23.13	22.95
1752.5	20375	5	1	12	16QAM	23.08	22.90
1752.5	20375	5	1	24	16QAM	23.14	22.94
1752.5	20375	5	12	0	16QAM	22.23	21.23
1752.5	20375	5	12	6	16QAM	22.23	21.23
1752.5	20375	5	12	13	16QAM	22.24	21.27
1752.5	20375	5	25	0	16QAM	22.14	21.19
1715.0	20000	10	1	0	QPSK	23.66	23.61
1715.0	20000	10	1	24	QPSK	23.67	23.64
1715.0	20000	10	1	49	QPSK	23.58	23.50
1715.0	20000	10	25	0	QPSK	23.00	22.09
1715.0	20000	10	25	12	QPSK	23.00	22.05
1715.0	20000	10	25	25	QPSK	23.01	22.15
1715.0	20000	10	50	0	QPSK	22.83	21.91
1715.0	20000	10	1	0	16QAM	23.30	22.83
1715.0	20000	10	1	24	16QAM	23.29	22.86
1715.0	20000	10	1	49	16QAM	23.16	22.80
1715.0	20000	10	25	0	16QAM	22.05	21.07
1715.0	20000	10	25	12	16QAM	22.05	21.10
1715.0	20000	10	25	25	16QAM	22.07	21.14
1715.0	20000	10	50	0	16QAM	21.90	20.98

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1732.5	20175	10	1	0	QPSK	23.63	23.52
1732.5	20175	10	1	24	QPSK	23.55	23.59
1732.5	20175	10	1	49	QPSK	23.65	23.56
1732.5	20175	10	25	0	QPSK	23.03	22.12
1732.5	20175	10	25	12	QPSK	23.00	22.03
1732.5	20175	10	25	25	QPSK	23.06	22.09
1732.5	20175	10	50	0	QPSK	22.86	21.90
1732.5	20175	10	1	0	16QAM	23.22	22.82
1732.5	20175	10	1	24	16QAM	23.29	22.74
1732.5	20175	10	1	49	16QAM	23.32	22.84
1732.5	20175	10	25	0	16QAM	22.09	21.00
1732.5	20175	10	25	12	16QAM	22.00	20.99
1732.5	20175	10	25	25	16QAM	22.09	21.07
1732.5	20175	10	50	0	16QAM	21.78	20.90
1750.0	20350	10	1	0	QPSK	23.76	23.71
1750.0	20350	10	1	24	QPSK	23.74	23.70
1750.0	20350	10	1	49	QPSK	23.74	23.66
1750.0	20350	10	25	0	QPSK	23.10	22.12
1750.0	20350	10	25	12	QPSK	23.08	22.07
1750.0	20350	10	25	25	QPSK	23.11	22.13
1750.0	20350	10	50	0	QPSK	22.92	21.93
1750.0	20350	10	1	0	16QAM	23.45	23.00
1750.0	20350	10	1	24	16QAM	23.43	23.07
1750.0	20350	10	1	49	16QAM	23.35	23.14
1750.0	20350	10	25	0	16QAM	22.11	21.11
1750.0	20350	10	25	12	16QAM	22.10	21.07
1750.0	20350	10	25	25	16QAM	22.16	21.10
1750.0	20350	10	50	0	16QAM	21.89	20.92

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1717.5	20025	15	1	0	QPSK	23.70	23.63
1717.5	20025	15	1	36	QPSK	23.65	23.61
1717.5	20025	15	1	74	QPSK	23.72	23.64
1717.5	20025	15	37	0	QPSK	22.92	21.96
1717.5	20025	15	37	18	QPSK	22.97	22.01
1717.5	20025	15	37	38	QPSK	22.99	22.03
1717.5	20025	15	75	0	QPSK	22.93	21.92
1717.5	20025	15	1	0	16QAM	23.01	22.98
1717.5	20025	15	1	36	16QAM	23.02	22.97
1717.5	20025	15	1	74	16QAM	23.08	23.05
1717.5	20025	15	37	0	16QAM	21.93	20.98
1717.5	20025	15	37	18	16QAM	22.05	20.99
1717.5	20025	15	37	38	16QAM	22.03	21.04
1717.5	20025	15	75	0	16QAM	22.00	21.01
1732.5	20175	15	1	0	QPSK	23.72	23.60
1732.5	20175	15	1	36	QPSK	23.74	23.70
1732.5	20175	15	1	74	QPSK	23.85	23.78
1732.5	20175	15	37	0	QPSK	23.00	22.03
1732.5	20175	15	37	18	QPSK	22.92	21.94
1732.5	20175	15	37	38	QPSK	22.92	22.00
1732.5	20175	15	75	0	QPSK	22.92	21.92
1732.5	20175	15	1	0	16QAM	23.28	23.00
1732.5	20175	15	1	36	16QAM	23.35	23.00
1732.5	20175	15	1	74	16QAM	23.45	23.02
1732.5	20175	15	37	0	16QAM	22.01	21.01
1732.5	20175	15	37	18	16QAM	21.96	20.96
1732.5	20175	15	37	38	16QAM	21.97	20.95
1732.5	20175	15	75	0	16QAM	21.88	20.87

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1747.5	20325	15	1	0	QPSK	23.80	23.75
1747.5	20325	15	1	36	QPSK	23.71	23.69
1747.5	20325	15	1	74	QPSK	23.71	23.78
1747.5	20325	15	37	0	QPSK	22.99	21.97
1747.5	20325	15	37	18	QPSK	23.00	22.05
1747.5	20325	15	37	38	QPSK	23.00	22.01
1747.5	20325	15	75	0	QPSK	22.95	22.02
1747.5	20325	15	1	0	16QAM	23.14	23.11
1747.5	20325	15	1	36	16QAM	23.10	23.07
1747.5	20325	15	1	74	16QAM	23.17	23.18
1747.5	20325	15	37	0	16QAM	21.93	21.03
1747.5	20325	15	37	18	16QAM	22.01	21.02
1747.5	20325	15	37	38	16QAM	22.00	21.01
1747.5	20325	15	75	0	16QAM	21.94	21.03
1720.0	20050	20	1	0	QPSK	23.70	23.71
1720.0	20050	20	1	49	QPSK	23.62	23.58
1720.0	20050	20	1	99	QPSK	23.58	23.53
1720.0	20050	20	50	0	QPSK	22.86	21.90
1720.0	20050	20	50	24	QPSK	22.84	21.94
1720.0	20050	20	50	50	QPSK	22.97	21.96
1720.0	20050	20	100	0	QPSK	22.83	21.94
1720.0	20050	20	1	0	16QAM	23.05	23.28
1720.0	20050	20	1	49	16QAM	22.98	23.14
1720.0	20050	20	1	99	16QAM	22.99	23.15
1720.0	20050	20	50	0	16QAM	21.89	20.92
1720.0	20050	20	50	24	16QAM	21.88	20.89
1720.0	20050	20	50	50	16QAM	21.96	20.92
1720.0	20050	20	100	0	16QAM	21.93	20.94

(Table LTE1700/2100, 004402/47/351347/5 continues)

(Table LTE1700/2100, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1732.5	20175	20	1	0	QPSK	23.78	23.74
1732.5	20175	20	1	49	QPSK	23.74	23.69
1732.5	20175	20	1	99	QPSK	23.80	23.74
1732.5	20175	20	50	0	QPSK	22.95	21.98
1732.5	20175	20	50	24	QPSK	22.90	21.88
1732.5	20175	20	50	50	QPSK	22.86	21.91
1732.5	20175	20	100	0	QPSK	22.93	21.96
1732.5	20175	20	1	0	16QAM	23.14	23.30
1732.5	20175	20	1	49	16QAM	23.14	23.31
1732.5	20175	20	1	99	16QAM	23.19	23.45
1732.5	20175	20	50	0	16QAM	21.94	20.90
1732.5	20175	20	50	24	16QAM	21.83	20.79
1732.5	20175	20	50	50	16QAM	21.90	20.88
1732.5	20175	20	100	0	16QAM	21.93	20.93
1745.0	20300	20	1	0	QPSK	23.74	23.64
1745.0	20300	20	1	49	QPSK	23.75	23.71
1745.0	20300	20	1	99	QPSK	23.78	23.75
1745.0	20300	20	50	0	QPSK	22.84	21.93
1745.0	20300	20	50	24	QPSK	22.87	21.95
1745.0	20300	20	50	50	QPSK	22.89	21.91
1745.0	20300	20	100	0	QPSK	22.95	22.01
1745.0	20300	20	1	0	16QAM	23.33	23.30
1745.0	20300	20	1	49	16QAM	23.28	23.34
1745.0	20300	20	1	99	16QAM	23.19	23.27
1745.0	20300	20	50	0	16QAM	21.81	20.89
1745.0	20300	20	50	24	16QAM	21.92	20.93
1745.0	20300	20	50	50	16QAM	21.85	20.87
1745.0	20300	20	100	0	16QAM	21.99	20.97

Type: RX-114; Serial number: 004402/47/351408/5 used for LTE1700/2100 (Band 4) REDUCED POWER for Body-worn SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE1700/2100 (Band 4) in 1.4MHz Channel BW in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1710.7	19957	1.4	1	0	QPSK	17.19	-
1710.7	19957	1.4	1	2	QPSK	17.12	-
1710.7	19957	1.4	1	5	QPSK	17.08	-
1710.7	19957	1.4	3	0	QPSK	17.16	-
1710.7	19957	1.4	3	2	QPSK	17.17	-
1710.7	19957	1.4	3	3	QPSK	17.09	-
1710.7	19957	1.4	6	0	QPSK	17.17	-
1710.7	19957	1.4	1	0	16QAM	17.01	-
1710.7	19957	1.4	1	2	16QAM	17.03	-
1710.7	19957	1.4	1	5	16QAM	17.02	-
1710.7	19957	1.4	3	0	16QAM	17.2	-
1710.7	19957	1.4	3	2	16QAM	17.25	-
1710.7	19957	1.4	3	3	16QAM	17.23	-
1710.7	19957	1.4	6	0	16QAM	17.18	-
1732.5	20175	1.4	1	0	QPSK	17.04	-
1732.5	20175	1.4	1	2	QPSK	17.03	-
1732.5	20175	1.4	1	5	QPSK	16.96	-
1732.5	20175	1.4	3	0	QPSK	17.1	-
1732.5	20175	1.4	3	2	QPSK	17.06	-
1732.5	20175	1.4	3	3	QPSK	17.07	-
1732.5	20175	1.4	6	0	QPSK	17.05	-
1732.5	20175	1.4	1	0	16QAM	17.02	-
1732.5	20175	1.4	1	2	16QAM	16.92	-
1732.5	20175	1.4	1	5	16QAM	17.17	-
1732.5	20175	1.4	3	0	16QAM	17.03	-
1732.5	20175	1.4	3	2	16QAM	17.07	-
1732.5	20175	1.4	3	3	16QAM	17.14	-
1732.5	20175	1.4	6	0	16QAM	17.05	-

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1754.3	20393	1.4	1	0	QPSK	17.29	-
1754.3	20393	1.4	1	2	QPSK	17.32	-
1754.3	20393	1.4	1	5	QPSK	17.32	-
1754.3	20393	1.4	3	0	QPSK	17.28	-
1754.3	20393	1.4	3	2	QPSK	17.35	-
1754.3	20393	1.4	3	3	QPSK	17.29	-
1754.3	20393	1.4	6	0	QPSK	17.29	-
1754.3	20393	1.4	1	0	16QAM	17.37	-
1754.3	20393	1.4	1	2	16QAM	17.33	-
1754.3	20393	1.4	1	5	16QAM	17.35	-
1754.3	20393	1.4	3	0	16QAM	17.29	-
1754.3	20393	1.4	3	2	16QAM	17.35	-
1754.3	20393	1.4	3	3	16QAM	17.29	-
1754.3	20393	1.4	6	0	16QAM	17.40	-
1711.5	19965	3	1	0	QPSK	17.17	17.14
1711.5	19965	3	1	7	QPSK	17.25	17.28
1711.5	19965	3	1	14	QPSK	17.23	17.28
1711.5	19965	3	8	0	QPSK	17.17	17.21
1711.5	19965	3	8	3	QPSK	17.21	17.24
1711.5	19965	3	8	7	QPSK	17.18	17.28
1711.5	19965	3	15	0	QPSK	17.26	17.26
1711.5	19965	3	1	0	16QAM	17.39	17.05
1711.5	19965	3	1	7	16QAM	17.45	17.19
1711.5	19965	3	1	14	16QAM	17.47	17.10
1711.5	19965	3	8	0	16QAM	17.04	17.09
1711.5	19965	3	8	3	16QAM	17.15	17.18
1711.5	19965	3	8	7	16QAM	17.16	17.20
1711.5	19965	3	15	0	16QAM	17.16	17.23

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1732.5	20175	3	1	0	QPSK	17.15	17.06
1732.5	20175	3	1	7	QPSK	17.06	17.06
1732.5	20175	3	1	14	QPSK	17.06	17.03
1732.5	20175	3	8	0	QPSK	17.08	17.04
1732.5	20175	3	8	3	QPSK	17.02	17.06
1732.5	20175	3	8	7	QPSK	17.04	16.99
1732.5	20175	3	15	0	QPSK	16.99	16.97
1732.5	20175	3	1	0	16QAM	17.27	16.98
1732.5	20175	3	1	7	16QAM	17.30	16.92
1732.5	20175	3	1	14	16QAM	17.20	17.04
1732.5	20175	3	8	0	16QAM	17.01	17.00
1732.5	20175	3	8	3	16QAM	16.84	17.01
1732.5	20175	3	8	7	16QAM	16.87	16.96
1732.5	20175	3	15	0	16QAM	17.01	17.05
1753.5	20385	3	1	0	QPSK	17.30	17.35
1753.5	20385	3	1	7	QPSK	17.33	17.33
1753.5	20385	3	1	14	QPSK	17.36	17.33
1753.5	20385	3	8	0	QPSK	17.30	17.30
1753.5	20385	3	8	3	QPSK	17.33	17.36
1753.5	20385	3	8	7	QPSK	17.26	17.28
1753.5	20385	3	15	0	QPSK	17.27	17.26
1753.5	20385	3	1	0	16QAM	17.18	17.42
1753.5	20385	3	1	7	16QAM	17.18	17.40
1753.5	20385	3	1	14	16QAM	17.18	17.38
1753.5	20385	3	8	0	16QAM	17.18	17.24
1753.5	20385	3	8	3	16QAM	17.25	17.23
1753.5	20385	3	8	7	16QAM	17.22	17.20
1753.5	20385	3	15	0	16QAM	17.28	17.32

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1712.5	19975	5	1	0	QPSK	17.18	17.19
1712.5	19975	5	1	12	QPSK	17.27	17.28
1712.5	19975	5	1	24	QPSK	17.26	17.19
1712.5	19975	5	12	0	QPSK	17.11	17.13
1712.5	19975	5	12	6	QPSK	17.27	17.22
1712.5	19975	5	12	13	QPSK	17.19	17.23
1712.5	19975	5	25	0	QPSK	17.22	17.17
1712.5	19975	5	1	0	16QAM	17.08	17.41
1712.5	19975	5	1	12	16QAM	17.18	17.48
1712.5	19975	5	1	24	16QAM	17.08	17.40
1712.5	19975	5	12	0	16QAM	17.15	17.19
1712.5	19975	5	12	6	16QAM	17.23	17.26
1712.5	19975	5	12	13	16QAM	17.19	17.24
1712.5	19975	5	25	0	16QAM	17.26	17.15
1732.5	20175	5	1	0	QPSK	17.12	17.13
1732.5	20175	5	1	12	QPSK	17.04	17.09
1732.5	20175	5	1	24	QPSK	17.07	17.03
1732.5	20175	5	12	0	QPSK	17.06	16.99
1732.5	20175	5	12	6	QPSK	17.01	16.98
1732.5	20175	5	12	13	QPSK	17.03	17.02
1732.5	20175	5	25	0	QPSK	16.94	16.92
1732.5	20175	5	1	0	16QAM	17.09	17.23
1732.5	20175	5	1	12	16QAM	17.02	17.21
1732.5	20175	5	1	24	16QAM	16.96	17.20
1732.5	20175	5	12	0	16QAM	17.07	17.01
1732.5	20175	5	12	6	16QAM	16.94	16.96
1732.5	20175	5	12	13	16QAM	16.95	16.99
1732.5	20175	5	25	0	16QAM	16.92	16.96

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1752.5	20375	5	1	0	QPSK	17.36	17.33
1752.5	20375	5	1	12	QPSK	17.36	17.31
1752.5	20375	5	1	24	QPSK	17.36	17.35
1752.5	20375	5	12	0	QPSK	17.31	17.27
1752.5	20375	5	12	6	QPSK	17.33	17.29
1752.5	20375	5	12	13	QPSK	17.3	17.32
1752.5	20375	5	25	0	QPSK	17.19	17.27
1752.5	20375	5	1	0	16QAM	17.19	17.12
1752.5	20375	5	1	12	16QAM	17.17	17.20
1752.5	20375	5	1	24	16QAM	17.24	17.21
1752.5	20375	5	12	0	16QAM	17.24	17.28
1752.5	20375	5	12	6	16QAM	17.25	17.27
1752.5	20375	5	12	13	16QAM	17.26	17.29
1752.5	20375	5	25	0	16QAM	17.19	17.26
1715.0	20000	10	1	0	QPSK	17.18	17.10
1715.0	20000	10	1	24	QPSK	17.04	16.95
1715.0	20000	10	1	49	QPSK	17.12	17.03
1715.0	20000	10	25	0	QPSK	17.23	17.26
1715.0	20000	10	25	12	QPSK	17.17	17.17
1715.0	20000	10	25	25	QPSK	17.23	17.17
1715.0	20000	10	50	0	QPSK	17.20	17.07
1715.0	20000	10	1	0	16QAM	17.14	17.04
1715.0	20000	10	1	24	16QAM	17.16	16.98
1715.0	20000	10	1	49	16QAM	17.09	16.97
1715.0	20000	10	25	0	16QAM	17.12	17.16
1715.0	20000	10	25	12	16QAM	17.07	17.08
1715.0	20000	10	25	25	16QAM	16.98	16.99
1715.0	20000	10	50	0	16QAM	17.10	17.12

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1732.5	20175	10	1	0	QPSK	17.26	17.18
1732.5	20175	10	1	24	QPSK	17.17	17.01
1732.5	20175	10	1	49	QPSK	17.18	17.07
1732.5	20175	10	25	0	QPSK	17.07	17.04
1732.5	20175	10	25	12	QPSK	17.00	16.94
1732.5	20175	10	25	25	QPSK	16.96	16.91
1732.5	20175	10	50	0	QPSK	16.99	16.93
1732.5	20175	10	1	0	16QAM	17.39	17.02
1732.5	20175	10	1	24	16QAM	17.18	16.97
1732.5	20175	10	1	49	16QAM	17.22	16.99
1732.5	20175	10	25	0	16QAM	17.01	17.06
1732.5	20175	10	25	12	16QAM	16.98	16.83
1732.5	20175	10	25	25	16QAM	16.82	16.90
1732.5	20175	10	50	0	16QAM	16.93	16.99
1750.0	20350	10	1	0	QPSK	17.26	17.22
1750.0	20350	10	1	24	QPSK	17.22	17.20
1750.0	20350	10	1	49	QPSK	17.22	17.21
1750.0	20350	10	25	0	QPSK	17.10	17.07
1750.0	20350	10	25	12	QPSK	17.14	17.08
1750.0	20350	10	25	25	QPSK	17.17	17.11
1750.0	20350	10	50	0	QPSK	17.07	17.05
1750.0	20350	10	1	0	16QAM	17.35	17.13
1750.0	20350	10	1	24	16QAM	17.27	17.07
1750.0	20350	10	1	49	16QAM	17.35	17.14
1750.0	20350	10	25	0	16QAM	17.02	17.04
1750.0	20350	10	25	12	16QAM	17.05	17.03
1750.0	20350	10	25	25	16QAM	17.10	17.07
1750.0	20350	10	50	0	16QAM	17.01	17.07

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1717.5	20025	15	1	0	QPSK	17.11	17.18
1717.5	20025	15	1	36	QPSK	17.12	17.16
1717.5	20025	15	1	74	QPSK	17.04	17.06
1717.5	20025	15	37	0	QPSK	17.05	17.19
1717.5	20025	15	37	18	QPSK	17.07	17.16
1717.5	20025	15	37	38	QPSK	17.09	17.19
1717.5	20025	15	75	0	QPSK	17.13	17.08
1717.5	20025	15	1	0	16QAM	16.84	17.26
1717.5	20025	15	1	36	16QAM	17.05	17.22
1717.5	20025	15	1	74	16QAM	16.90	17.20
1717.5	20025	15	37	0	16QAM	17.08	17.08
1717.5	20025	15	37	18	16QAM	16.87	16.87
1717.5	20025	15	37	38	16QAM	17.06	17.16
1717.5	20025	15	75	0	16QAM	17.10	17.00
1732.5	20175	15	1	0	QPSK	17.12	17.19
1732.5	20175	15	1	36	QPSK	17.02	17.17
1732.5	20175	15	1	74	QPSK	17.01	17.07
1732.5	20175	15	37	0	QPSK	17.03	17.02
1732.5	20175	15	37	18	QPSK	16.94	16.96
1732.5	20175	15	37	38	QPSK	17.00	17.04
1732.5	20175	15	75	0	QPSK	16.92	16.93
1732.5	20175	15	1	0	16QAM	16.94	17.24
1732.5	20175	15	1	36	16QAM	16.94	17.23
1732.5	20175	15	1	74	16QAM	16.86	17.17
1732.5	20175	15	37	0	16QAM	17.05	17.06
1732.5	20175	15	37	18	16QAM	16.92	16.94
1732.5	20175	15	37	38	16QAM	16.98	16.96
1732.5	20175	15	75	0	16QAM	16.89	16.93

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1747.5	20325	15	1	0	QPSK	17.13	17.20
1747.5	20325	15	1	36	QPSK	17.14	17.18
1747.5	20325	15	1	74	QPSK	17.14	17.12
1747.5	20325	15	37	0	QPSK	17.08	17.03
1747.5	20325	15	37	18	QPSK	17.06	17.08
1747.5	20325	15	37	38	QPSK	17.08	17.10
1747.5	20325	15	75	0	QPSK	17.04	17.02
1747.5	20325	15	1	0	16QAM	16.83	17.28
1747.5	20325	15	1	36	16QAM	16.82	17.29
1747.5	20325	15	1	74	16QAM	16.86	17.32
1747.5	20325	15	37	0	16QAM	16.97	16.98
1747.5	20325	15	37	18	16QAM	17.01	17.02
1747.5	20325	15	37	38	16QAM	17.03	17.11
1747.5	20325	15	75	0	16QAM	17.05	17.05
1720.0	20050	20	1	0	QPSK	17.17	17.15
1720.0	20050	20	1	49	QPSK	17.04	17.02
1720.0	20050	20	1	99	QPSK	17.06	16.98
1720.0	20050	20	50	0	QPSK	17.06	17.08
1720.0	20050	20	50	24	QPSK	17.10	17.09
1720.0	20050	20	50	50	QPSK	16.97	16.98
1720.0	20050	20	100	0	QPSK	17.06	17.06
1720.0	20050	20	1	0	16QAM	17.04	17.01
1720.0	20050	20	1	49	16QAM	16.89	16.92
1720.0	20050	20	1	99	16QAM	16.87	16.89
1720.0	20050	20	50	0	16QAM	17.05	17.00
1720.0	20050	20	50	24	16QAM	17.03	17.08
1720.0	20050	20	50	50	16QAM	16.88	16.94
1720.0	20050	20	100	0	16QAM	17.10	17.07

(Table LTE1700/2100, 004402/47/351408/5 continues)

(Table LTE1700/2100, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1732.5	20175	20	1	0	QPSK	17.15	17.15
1732.5	20175	20	1	49	QPSK	17.03	17.04
1732.5	20175	20	1	99	QPSK	16.99	16.96
1732.5	20175	20	50	0	QPSK	17.00	16.95
1732.5	20175	20	50	24	QPSK	16.95	16.94
1732.5	20175	20	50	50	QPSK	16.95	16.99
1732.5	20175	20	100	0	QPSK	16.97	16.94
1732.5	20175	20	1	0	16QAM	16.97	17.01
1732.5	20175	20	1	49	16QAM	16.86	16.86
1732.5	20175	20	1	99	16QAM	16.87	16.84
1732.5	20175	20	50	0	16QAM	16.83	17.00
1732.5	20175	20	50	24	16QAM	16.90	16.99
1732.5	20175	20	50	50	16QAM	16.84	16.93
1732.5	20175	20	100	0	16QAM	16.94	16.90
1745.0	20300	20	1	0	QPSK	17.17	17.21
1745.0	20300	20	1	49	QPSK	17.11	17.14
1745.0	20300	20	1	99	QPSK	17.13	17.10
1745.0	20300	20	50	0	QPSK	17.03	17.05
1745.0	20300	20	50	24	QPSK	17.03	17.02
1745.0	20300	20	50	50	QPSK	17.04	17.02
1745.0	20300	20	100	0	QPSK	17.02	17.05
1745.0	20300	20	1	0	16QAM	17.05	16.83
1745.0	20300	20	1	49	16QAM	16.97	16.83
1745.0	20300	20	1	99	16QAM	17.07	16.80
1745.0	20300	20	50	0	16QAM	16.93	17.03
1745.0	20300	20	50	24	16QAM	16.96	16.99
1745.0	20300	20	50	50	16QAM	16.90	16.98
1745.0	20300	20	100	0	16QAM	16.96	16.99

Type: RX-114; Serial number: 004402/47/351347/5 used for LTE1900 (Band 2) FULL POWER for Body-worn SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE1900 (Band 2) in 1.4MHz Channel BW in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1850.7	18607	1.4	1	0	QPSK	23.59	-
1850.7	18607	1.4	1	2	QPSK	23.58	-
1850.7	18607	1.4	1	5	QPSK	23.59	-
1850.7	18607	1.4	3	0	QPSK	23.64	-
1850.7	18607	1.4	3	2	QPSK	23.61	-
1850.7	18607	1.4	3	3	QPSK	23.63	-
1850.7	18607	1.4	6	0	QPSK	23.09	-
1850.7	18607	1.4	1	0	16QAM	23.15	-
1850.7	18607	1.4	1	2	16QAM	23.18	-
1850.7	18607	1.4	1	5	16QAM	23.24	-
1850.7	18607	1.4	3	0	16QAM	23.15	-
1850.7	18607	1.4	3	2	16QAM	23.13	-
1850.7	18607	1.4	3	3	16QAM	23.08	-
1850.7	18607	1.4	6	0	16QAM	22.27	-
1880.0	18900	1.4	1	0	QPSK	23.63	-
1880.0	18900	1.4	1	2	QPSK	23.58	-
1880.0	18900	1.4	1	5	QPSK	23.62	-
1880.0	18900	1.4	3	0	QPSK	23.60	-
1880.0	18900	1.4	3	2	QPSK	23.60	-
1880.0	18900	1.4	3	3	QPSK	23.64	-
1880.0	18900	1.4	6	0	QPSK	23.09	-
1880.0	18900	1.4	1	0	16QAM	23.17	-
1880.0	18900	1.4	1	2	16QAM	23.24	-
1880.0	18900	1.4	1	5	16QAM	23.23	-
1880.0	18900	1.4	3	0	16QAM	23.19	-
1880.0	18900	1.4	3	2	16QAM	23.19	-
1880.0	18900	1.4	3	3	16QAM	23.22	-
1880.0	18900	1.4	6	0	16QAM	22.24	-

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1909.3	19193	1.4	1	0	QPSK	23.52	-
1909.3	19193	1.4	1	2	QPSK	23.51	-
1909.3	19193	1.4	1	5	QPSK	23.50	-
1909.3	19193	1.4	3	0	QPSK	23.50	-
1909.3	19193	1.4	3	2	QPSK	23.51	-
1909.3	19193	1.4	3	3	QPSK	23.54	-
1909.3	19193	1.4	6	0	QPSK	23.02	-
1909.3	19193	1.4	1	0	16QAM	23.07	-
1909.3	19193	1.4	1	2	16QAM	23.06	-
1909.3	19193	1.4	1	5	16QAM	23.08	-
1909.3	19193	1.4	3	0	16QAM	23.02	-
1909.3	19193	1.4	3	2	16QAM	23.06	-
1909.3	19193	1.4	3	3	16QAM	23.03	-
1909.3	19193	1.4	6	0	16QAM	22.23	-
1851.5	18615	3	1	0	QPSK	23.59	23.53
1851.5	18615	3	1	7	QPSK	23.60	23.58
1851.5	18615	3	1	14	QPSK	23.53	23.49
1851.5	18615	3	8	0	QPSK	23.07	22.22
1851.5	18615	3	8	3	QPSK	23.12	22.13
1851.5	18615	3	8	7	QPSK	23.10	22.17
1851.5	18615	3	15	0	QPSK	23.05	22.15
1851.5	18615	3	1	0	16QAM	23.22	22.81
1851.5	18615	3	1	7	16QAM	23.23	22.82
1851.5	18615	3	1	14	16QAM	23.16	22.72
1851.5	18615	3	8	0	16QAM	22.07	21.07
1851.5	18615	3	8	3	16QAM	22.14	21.04
1851.5	18615	3	8	7	16QAM	22.06	21.03
1851.5	18615	3	15	0	16QAM	22.10	21.06

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/342581/1 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1880.0	18900	3	1	0	QPSK	23.53	23.52
1880.0	18900	3	1	7	QPSK	23.58	23.57
1880.0	18900	3	1	14	QPSK	23.64	23.65
1880.0	18900	3	8	0	QPSK	23.08	22.05
1880.0	18900	3	8	3	QPSK	23.05	22.08
1880.0	18900	3	8	7	QPSK	23.07	22.13
1880.0	18900	3	15	0	QPSK	23.03	21.99
1880.0	18900	3	1	0	16QAM	22.71	22.89
1880.0	18900	3	1	7	16QAM	22.78	22.91
1880.0	18900	3	1	14	16QAM	22.80	22.96
1880.0	18900	3	8	0	16QAM	22.08	20.90
1880.0	18900	3	8	3	16QAM	22.05	20.93
1880.0	18900	3	8	7	16QAM	22.12	21.01
1880.0	18900	3	15	0	16QAM	22.08	20.99
1908.5	19185	3	1	0	QPSK	23.58	23.53
1908.5	19185	3	1	7	QPSK	23.50	23.46
1908.5	19185	3	1	14	QPSK	23.47	23.41
1908.5	19185	3	8	0	QPSK	23.03	22.06
1908.5	19185	3	8	3	QPSK	23.02	22.03
1908.5	19185	3	8	7	QPSK	23.03	22.11
1908.5	19185	3	15	0	QPSK	22.97	22.02
1908.5	19185	3	1	0	16QAM	23.02	23.02
1908.5	19185	3	1	7	16QAM	23.00	22.99
1908.5	19185	3	1	14	16QAM	22.93	22.92
1908.5	19185	3	8	0	16QAM	22.06	21.06
1908.5	19185	3	8	3	16QAM	22.09	20.99
1908.5	19185	3	8	7	16QAM	22.10	21.05
1908.5	19185	3	15	0	16QAM	22.08	21.02

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1852.5	18625	5	1	0	QPSK	23.58	23.56
1852.5	18625	5	1	12	QPSK	23.60	23.51
1852.5	18625	5	1	24	QPSK	23.56	23.55
1852.5	18625	5	12	0	QPSK	23.03	22.12
1852.5	18625	5	12	6	QPSK	23.04	22.08
1852.5	18625	5	12	13	QPSK	23.10	22.17
1852.5	18625	5	25	0	QPSK	22.93	21.99
1852.5	18625	5	1	0	16QAM	22.87	22.95
1852.5	18625	5	1	12	16QAM	22.78	22.83
1852.5	18625	5	1	24	16QAM	22.85	22.90
1852.5	18625	5	12	0	16QAM	22.07	21.16
1852.5	18625	5	12	6	16QAM	22.10	21.19
1852.5	18625	5	12	13	16QAM	22.15	21.18
1852.5	18625	5	25	0	16QAM	21.99	20.96
1880.0	18900	5	1	0	QPSK	23.65	23.61
1880.0	18900	5	1	12	QPSK	23.61	23.55
1880.0	18900	5	1	24	QPSK	23.68	23.66
1880.0	18900	5	12	0	QPSK	23.07	22.01
1880.0	18900	5	12	6	QPSK	23.05	22.07
1880.0	18900	5	12	13	QPSK	23.09	22.11
1880.0	18900	5	25	0	QPSK	22.91	21.94
1880.0	18900	5	1	0	16QAM	23.07	23.27
1880.0	18900	5	1	12	16QAM	22.97	23.28
1880.0	18900	5	1	24	16QAM	23.06	23.33
1880.0	18900	5	12	0	16QAM	22.10	21.09
1880.0	18900	5	12	6	16QAM	22.11	21.13
1880.0	18900	5	12	13	16QAM	22.15	21.18
1880.0	18900	5	25	0	16QAM	21.98	20.90

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1907.5	19175	5	1	0	QPSK	23.59	23.51
1907.5	19175	5	1	12	QPSK	23.57	23.55
1907.5	19175	5	1	24	QPSK	23.52	23.47
1907.5	19175	5	12	0	QPSK	23.10	21.96
1907.5	19175	5	12	6	QPSK	23.10	22.04
1907.5	19175	5	12	13	QPSK	23.06	22.05
1907.5	19175	5	25	0	QPSK	23.00	22.03
1907.5	19175	5	1	0	16QAM	22.99	23.14
1907.5	19175	5	1	12	16QAM	23.05	23.15
1907.5	19175	5	1	24	16QAM	22.93	23.00
1907.5	19175	5	12	0	16QAM	22.09	21.19
1907.5	19175	5	12	6	16QAM	22.17	21.22
1907.5	19175	5	12	13	16QAM	22.15	21.13
1907.5	19175	5	25	0	16QAM	22.07	23.51
1855.0	18650	10	1	0	QPSK	23.58	23.55
1855.0	18650	10	1	24	QPSK	23.69	23.65
1855.0	18650	10	1	49	QPSK	23.55	23.39
1855.0	18650	10	25	0	QPSK	22.89	21.98
1855.0	18650	10	25	12	QPSK	22.95	21.99
1855.0	18650	10	25	25	QPSK	22.95	21.94
1855.0	18650	10	50	0	QPSK	22.82	21.88
1855.0	18650	10	1	0	16QAM	23.00	23.25
1855.0	18650	10	1	24	16QAM	23.04	23.29
1855.0	18650	10	1	49	16QAM	23.01	23.07
1855.0	18650	10	25	0	16QAM	21.89	21.00
1855.0	18650	10	25	12	16QAM	21.95	21.05
1855.0	18650	10	25	25	16QAM	21.90	20.97
1855.0	18650	10	50	0	16QAM	21.85	20.86

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1880.0	18900	10	1	0	QPSK	23.61	23.57
1880.0	18900	10	1	24	QPSK	23.58	23.62
1880.0	18900	10	1	49	QPSK	23.68	23.83
1880.0	18900	10	25	0	QPSK	22.95	21.87
1880.0	18900	10	25	12	QPSK	23.02	21.93
1880.0	18900	10	25	25	QPSK	23.06	22.08
1880.0	18900	10	50	0	QPSK	22.83	21.85
1880.0	18900	10	1	0	16QAM	23.26	23.27
1880.0	18900	10	1	24	16QAM	23.26	23.34
1880.0	18900	10	1	49	16QAM	23.25	23.34
1880.0	18900	10	25	0	16QAM	21.95	20.92
1880.0	18900	10	25	12	16QAM	22.01	20.96
1880.0	18900	10	25	25	16QAM	22.12	21.14
1880.0	18900	10	50	0	16QAM	21.86	20.92
1905.0	19150	10	1	0	QPSK	23.49	23.59
1905.0	19150	10	1	24	QPSK	23.61	23.60
1905.0	19150	10	1	49	QPSK	23.51	23.50
1905.0	19150	10	25	0	QPSK	22.88	21.91
1905.0	19150	10	25	12	QPSK	23.07	21.97
1905.0	19150	10	25	25	QPSK	23.12	22.13
1905.0	19150	10	50	0	QPSK	22.82	21.89
1905.0	19150	10	1	0	16QAM	23.31	23.23
1905.0	19150	10	1	24	16QAM	23.21	23.18
1905.0	19150	10	1	49	16QAM	23.44	23.19
1905.0	19150	10	25	0	16QAM	21.98	20.94
1905.0	19150	10	25	12	16QAM	22.03	21.03
1905.0	19150	10	25	25	16QAM	22.11	21.13
1905.0	19150	10	50	0	16QAM	21.91	20.96

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1857.5	18675	15	1	0	QPSK	23.59	23.56
1857.5	18675	15	1	36	QPSK	23.50	23.49
1857.5	18675	15	1	74	QPSK	23.50	23.45
1857.5	18675	15	37	0	QPSK	22.94	21.93
1857.5	18675	15	37	18	QPSK	22.99	22.00
1857.5	18675	15	37	38	QPSK	23.00	21.94
1857.5	18675	15	75	0	QPSK	22.77	21.80
1857.5	18675	15	1	0	16QAM	22.98	22.93
1857.5	18675	15	1	36	16QAM	22.93	22.86
1857.5	18675	15	1	74	16QAM	22.93	22.90
1857.5	18675	15	37	0	16QAM	21.94	20.86
1857.5	18675	15	37	18	16QAM	21.98	20.88
1857.5	18675	15	37	38	16QAM	21.95	20.89
1857.5	18675	15	75	0	16QAM	21.88	20.83
1880.0	18900	15	1	0	QPSK	23.47	23.51
1880.0	18900	15	1	36	QPSK	23.57	23.61
1880.0	18900	15	1	74	QPSK	23.71	23.61
1880.0	18900	15	37	0	QPSK	22.79	21.82
1880.0	18900	15	37	18	QPSK	22.94	21.91
1880.0	18900	15	37	38	QPSK	23.03	22.09
1880.0	18900	15	75	0	QPSK	22.88	21.94
1880.0	18900	15	1	0	16QAM	22.96	22.93
1880.0	18900	15	1	36	16QAM	23.01	23.02
1880.0	18900	15	1	74	16QAM	22.94	23.12
1880.0	18900	15	37	0	16QAM	21.82	20.78
1880.0	18900	15	37	18	16QAM	21.85	20.85
1880.0	18900	15	37	38	16QAM	22.06	21.01
1880.0	18900	15	75	0	16QAM	21.91	20.94

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1902.5	19125	15	1	0	QPSK	23.62	23.39
1902.5	19125	15	1	36	QPSK	23.58	23.54
1902.5	19125	15	1	74	QPSK	23.58	23.47
1902.5	19125	15	37	0	QPSK	22.94	21.94
1902.5	19125	15	37	18	QPSK	22.83	21.87
1902.5	19125	15	37	38	QPSK	23.04	22.03
1902.5	19125	15	75	0	QPSK	22.76	21.83
1902.5	19125	15	1	0	16QAM	23.04	22.77
1902.5	19125	15	1	36	16QAM	22.95	22.99
1902.5	19125	15	1	74	16QAM	23.45	23.10
1902.5	19125	15	37	0	16QAM	21.94	20.92
1902.5	19125	15	37	18	16QAM	21.88	20.88
1902.5	19125	15	37	38	16QAM	22.05	20.99
1902.5	19125	15	75	0	16QAM	21.89	20.91
1860.0	18700	20	1	0	QPSK	23.64	23.60
1860.0	18700	20	1	49	QPSK	23.50	23.44
1860.0	18700	20	1	99	QPSK	23.66	23.66
1860.0	18700	20	50	0	QPSK	22.87	21.92
1860.0	18700	20	50	24	QPSK	22.86	21.90
1860.0	18700	20	50	50	QPSK	22.88	21.81
1860.0	18700	20	100	0	QPSK	22.81	21.84
1860.0	18700	20	1	0	16QAM	22.97	23.01
1860.0	18700	20	1	49	16QAM	22.89	22.85
1860.0	18700	20	1	99	16QAM	23.03	23.04
1860.0	18700	20	50	0	16QAM	21.94	20.91
1860.0	18700	20	50	24	16QAM	21.81	20.84
1860.0	18700	20	50	50	16QAM	21.91	20.83
1860.0	18700	20	100	0	16QAM	21.88	20.86

(Table LTE1900, 004402/47/351347/5 continues)

(Table LTE1900, 004402/47/351347/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1880.0	18900	20	1	0	QPSK	23.64	23.62
1880.0	18900	20	1	49	QPSK	23.61	23.60
1880.0	18900	20	1	99	QPSK	23.69	23.68
1880.0	18900	20	50	0	QPSK	22.83	21.84
1880.0	18900	20	50	24	QPSK	22.82	21.91
1880.0	18900	20	50	50	QPSK	23.07	22.10
1880.0	18900	20	100	0	QPSK	22.93	21.92
1880.0	18900	20	1	0	16QAM	23.15	23.08
1880.0	18900	20	1	49	16QAM	23.18	23.05
1880.0	18900	20	1	99	16QAM	23.11	23.09
1880.0	18900	20	50	0	16QAM	21.82	20.88
1880.0	18900	20	50	24	16QAM	21.87	20.93
1880.0	18900	20	50	50	16QAM	22.06	21.06
1880.0	18900	20	100	0	16QAM	22.01	21.03
1900.0	19100	20	1	0	QPSK	23.69	23.65
1900.0	19100	20	1	49	QPSK	23.57	23.66
1900.0	19100	20	1	99	QPSK	23.50	23.48
1900.0	19100	20	50	0	QPSK	22.92	21.96
1900.0	19100	20	50	24	QPSK	22.73	21.78
1900.0	19100	20	50	50	QPSK	22.92	21.92
1900.0	19100	20	100	0	QPSK	22.71	21.76
1900.0	19100	20	1	0	16QAM	23.12	23.82
1900.0	19100	20	1	49	16QAM	23.09	23.16
1900.0	19100	20	1	99	16QAM	23.02	22.97
1900.0	19100	20	50	0	16QAM	21.96	20.94
1900.0	19100	20	50	24	16QAM	21.74	20.80
1900.0	19100	20	50	50	16QAM	21.94	20.90
1900.0	19100	20	100	0	16QAM	21.84	20.89

Type: RX-114; Serial number: 004402/47/351408/5 used for LTE1900 (Band 2) REDUCED POWER for Body-worn SAR measurements.

“Max Average Power (dBm)” column lists measured powers with MPR active. The “Reduced Power (dBm)” column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101). A-MPR is not specified for LTE1900 (Band 2) in 1.4MHz Channel BW in this specification (Table 6.2.4-1).

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1850.7	18607	1.4	1	0	QPSK	17.27	-
1850.7	18607	1.4	1	2	QPSK	17.25	-
1850.7	18607	1.4	1	5	QPSK	17.27	-
1850.7	18607	1.4	3	0	QPSK	17.25	-
1850.7	18607	1.4	3	2	QPSK	17.29	-
1850.7	18607	1.4	3	3	QPSK	17.26	-
1850.7	18607	1.4	6	0	QPSK	17.28	-
1850.7	18607	1.4	1	0	16QAM	16.93	-
1850.7	18607	1.4	1	2	16QAM	16.89	-
1850.7	18607	1.4	1	5	16QAM	16.89	-
1850.7	18607	1.4	3	0	16QAM	17.09	-
1850.7	18607	1.4	3	2	16QAM	17.07	-
1850.7	18607	1.4	3	3	16QAM	17.12	-
1850.7	18607	1.4	6	0	16QAM	17.13	-
1880.0	18900	1.4	1	0	QPSK	17.45	-
1880.0	18900	1.4	1	2	QPSK	17.38	-
1880.0	18900	1.4	1	5	QPSK	17.37	-
1880.0	18900	1.4	3	0	QPSK	17.31	-
1880.0	18900	1.4	3	2	QPSK	17.38	-
1880.0	18900	1.4	3	3	QPSK	17.40	-
1880.0	18900	1.4	6	0	QPSK	17.39	-
1880.0	18900	1.4	1	0	16QAM	17.00	-
1880.0	18900	1.4	1	2	16QAM	17.03	-
1880.0	18900	1.4	1	5	16QAM	17.09	-
1880.0	18900	1.4	3	0	16QAM	17.12	-
1880.0	18900	1.4	3	2	16QAM	17.20	-
1880.0	18900	1.4	3	3	16QAM	17.24	-
1880.0	18900	1.4	6	0	16QAM	17.18	-

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1909.3	19193	1.4	1	0	QPSK	17.23	-
1909.3	19193	1.4	1	2	QPSK	17.10	-
1909.3	19193	1.4	1	5	QPSK	17.11	-
1909.3	19193	1.4	3	0	QPSK	17.23	-
1909.3	19193	1.4	3	2	QPSK	17.08	-
1909.3	19193	1.4	3	3	QPSK	17.11	-
1909.3	19193	1.4	6	0	QPSK	17.18	-
1909.3	19193	1.4	1	0	16QAM	17.04	-
1909.3	19193	1.4	1	2	16QAM	17.01	-
1909.3	19193	1.4	1	5	16QAM	16.98	-
1909.3	19193	1.4	3	0	16QAM	17.24	-
1909.3	19193	1.4	3	2	16QAM	17.22	-
1909.3	19193	1.4	3	3	16QAM	17.23	-
1909.3	19193	1.4	6	0	16QAM	17.24	-
1851.5	18615	3	1	0	QPSK	17.28	17.27
1851.5	18615	3	1	7	QPSK	17.26	17.20
1851.5	18615	3	1	14	QPSK	17.20	17.23
1851.5	18615	3	8	0	QPSK	17.23	17.20
1851.5	18615	3	8	3	QPSK	17.21	17.25
1851.5	18615	3	8	7	QPSK	17.19	17.23
1851.5	18615	3	15	0	QPSK	17.19	17.22
1851.5	18615	3	1	0	16QAM	17.39	17.42
1851.5	18615	3	1	7	16QAM	17.41	17.39
1851.5	18615	3	1	14	16QAM	17.34	17.27
1851.5	18615	3	8	0	16QAM	17.09	17.10
1851.5	18615	3	8	3	16QAM	17.05	17.07
1851.5	18615	3	8	7	16QAM	17.05	17.02
1851.5	18615	3	15	0	16QAM	17.14	17.10

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1880.0	18900	3	1	0	QPSK	17.11	17.13
1880.0	18900	3	1	7	QPSK	17.44	17.36
1880.0	18900	3	1	14	QPSK	17.32	17.36
1880.0	18900	3	8	0	QPSK	17.11	17.13
1880.0	18900	3	8	3	QPSK	17.34	17.39
1880.0	18900	3	8	7	QPSK	17.42	17.43
1880.0	18900	3	15	0	QPSK	17.28	17.35
1880.0	18900	3	1	0	16QAM	17.32	17.35
1880.0	18900	3	1	7	16QAM	17.33	17.39
1880.0	18900	3	1	14	16QAM	17.28	17.32
1880.0	18900	3	8	0	16QAM	17.09	17.12
1880.0	18900	3	8	3	16QAM	17.07	17.02
1880.0	18900	3	8	7	16QAM	17.06	17.20
1880.0	18900	3	15	0	16QAM	17.16	17.19
1908.5	19185	3	1	0	QPSK	17.51	17.36
1908.5	19185	3	1	7	QPSK	17.27	17.23
1908.5	19185	3	1	14	QPSK	17.17	17.15
1908.5	19185	3	8	0	QPSK	17.32	17.33
1908.5	19185	3	8	3	QPSK	17.20	17.23
1908.5	19185	3	8	7	QPSK	17.15	17.15
1908.5	19185	3	15	0	QPSK	17.23	17.22
1908.5	19185	3	1	0	16QAM	17.49	17.43
1908.5	19185	3	1	7	16QAM	17.52	17.47
1908.5	19185	3	1	14	16QAM	17.31	17.35
1908.5	19185	3	8	0	16QAM	17.15	17.56
1908.5	19185	3	8	3	16QAM	17.21	17.12
1908.5	19185	3	8	7	16QAM	17.09	17.14
1908.5	19185	3	15	0	16QAM	17.26	17.19

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1852.5	18625	5	1	0	QPSK	17.32	17.32
1852.5	18625	5	1	12	QPSK	17.27	17.18
1852.5	18625	5	1	24	QPSK	17.28	17.23
1852.5	18625	5	12	0	QPSK	17.21	17.21
1852.5	18625	5	12	6	QPSK	17.07	17.15
1852.5	18625	5	12	13	QPSK	17.26	17.18
1852.5	18625	5	25	0	QPSK	17.09	17.09
1852.5	18625	5	1	0	16QAM	17.10	17.11
1852.5	18625	5	1	12	16QAM	17.06	17.07
1852.5	18625	5	1	24	16QAM	17.10	17.17
1852.5	18625	5	12	0	16QAM	17.23	17.22
1852.5	18625	5	12	6	16QAM	17.19	17.18
1852.5	18625	5	12	13	16QAM	17.18	17.23
1852.5	18625	5	25	0	16QAM	17.10	17.12
1880.0	18900	5	1	0	QPSK	16.94	17.02
1880.0	18900	5	1	12	QPSK	17.41	17.36
1880.0	18900	5	1	24	QPSK	17.20	17.22
1880.0	18900	5	12	0	QPSK	17.05	17.11
1880.0	18900	5	12	6	QPSK	17.37	17.32
1880.0	18900	5	12	13	QPSK	17.32	17.28
1880.0	18900	5	25	0	QPSK	17.38	17.16
1880.0	18900	5	1	0	16QAM	16.90	16.93
1880.0	18900	5	1	12	16QAM	17.12	17.17
1880.0	18900	5	1	24	16QAM	16.94	16.91
1880.0	18900	5	12	0	16QAM	17.15	17.19
1880.0	18900	5	12	6	16QAM	17.12	17.17
1880.0	18900	5	12	13	16QAM	17.14	17.17
1880.0	18900	5	25	0	16QAM	17.11	17.1

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1907.5	19175	5	1	0	QPSK	17.32	17.40
1907.5	19175	5	1	12	QPSK	17.51	17.38
1907.5	19175	5	1	24	QPSK	17.18	17.23
1907.5	19175	5	12	0	QPSK	17.46	17.47
1907.5	19175	5	12	6	QPSK	17.48	17.50
1907.5	19175	5	12	13	QPSK	17.20	17.22
1907.5	19175	5	25	0	QPSK	17.32	17.51
1907.5	19175	5	1	0	16QAM	17.38	17.38
1907.5	19175	5	1	12	16QAM	17.27	17.25
1907.5	19175	5	1	24	16QAM	17.15	17.07
1907.5	19175	5	12	0	16QAM	17.33	17.34
1907.5	19175	5	12	6	16QAM	17.23	17.15
1907.5	19175	5	12	13	16QAM	17.19	17.19
1907.5	19175	5	25	0	16QAM	17.23	17.39
1855.0	18650	10	1	0	QPSK	17.32	17.30
1855.0	18650	10	1	24	QPSK	17.14	17.07
1855.0	18650	10	1	49	QPSK	17.07	17.01
1855.0	18650	10	25	0	QPSK	17.07	17.09
1855.0	18650	10	25	12	QPSK	17.01	16.96
1855.0	18650	10	25	25	QPSK	16.94	16.88
1855.0	18650	10	50	0	QPSK	16.89	17.14
1855.0	18650	10	1	0	16QAM	17.37	17.39
1855.0	18650	10	1	24	16QAM	17.39	17.38
1855.0	18650	10	1	49	16QAM	17.06	17.07
1855.0	18650	10	25	0	16QAM	16.93	17.00
1855.0	18650	10	25	12	16QAM	17.11	17.04
1855.0	18650	10	25	25	16QAM	16.98	16.92
1855.0	18650	10	50	0	16QAM	17.03	17.07

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1880.0	18900	10	1	0	QPSK	17.02	16.93
1880.0	18900	10	1	24	QPSK	17.45	17.39
1880.0	18900	10	1	49	QPSK	17.21	17.24
1880.0	18900	10	25	0	QPSK	16.92	16.89
1880.0	18900	10	25	12	QPSK	17.43	17.32
1880.0	18900	10	25	25	QPSK	17.22	17.22
1880.0	18900	10	50	0	QPSK	17.17	17.22
1880.0	18900	10	1	0	16QAM	17.17	17.18
1880.0	18900	10	1	24	16QAM	17.34	17.27
1880.0	18900	10	1	49	16QAM	17.20	17.22
1880.0	18900	10	25	0	16QAM	16.84	16.87
1880.0	18900	10	25	12	16QAM	16.97	17.06
1880.0	18900	10	25	25	16QAM	16.88	17.06
1880.0	18900	10	50	0	16QAM	17.01	17.06
1905.0	19150	10	1	0	QPSK	17.42	17.45
1905.0	19150	10	1	24	QPSK	17.57	17.54
1905.0	19150	10	1	49	QPSK	17.18	17.20
1905.0	19150	10	25	0	QPSK	17.43	17.44
1905.0	19150	10	25	12	QPSK	17.44	17.40
1905.0	19150	10	25	25	QPSK	17.22	17.27
1905.0	19150	10	50	0	QPSK	17.23	17.26
1905.0	19150	10	1	0	16QAM	17.35	17.36
1905.0	19150	10	1	24	16QAM	17.50	17.57
1905.0	19150	10	1	49	16QAM	17.31	17.32
1905.0	19150	10	25	0	16QAM	17.41	17.37
1905.0	19150	10	25	12	16QAM	17.39	17.19
1905.0	19150	10	25	25	16QAM	17.04	17.08
1905.0	19150	10	50	0	16QAM	17.20	17.22

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1857.5	18675	15	1	0	QPSK	17.20	17.23
1857.5	18675	15	1	36	QPSK	17.00	16.97
1857.5	18675	15	1	74	QPSK	17.13	17.10
1857.5	18675	15	37	0	QPSK	17.25	17.22
1857.5	18675	15	37	18	QPSK	16.95	16.92
1857.5	18675	15	37	38	QPSK	16.82	16.81
1857.5	18675	15	75	0	QPSK	16.93	16.90
1857.5	18675	15	1	0	16QAM	17.03	17.34
1857.5	18675	15	1	36	16QAM	16.81	17.06
1857.5	18675	15	1	74	16QAM	16.83	16.84
1857.5	18675	15	37	0	16QAM	17.11	17.15
1857.5	18675	15	37	18	16QAM	16.99	16.83
1857.5	18675	15	37	38	16QAM	16.83	16.85
1857.5	18675	15	75	0	16QAM	16.88	16.85
1880.0	18900	15	1	0	QPSK	16.84	16.85
1880.0	18900	15	1	36	QPSK	17.32	17.33
1880.0	18900	15	1	74	QPSK	17.16	17.13
1880.0	18900	15	37	0	QPSK	16.84	16.83
1880.0	18900	15	37	18	QPSK	17.19	17.27
1880.0	18900	15	37	38	QPSK	17.15	17.17
1880.0	18900	15	75	0	QPSK	17.08	17.08
1880.0	18900	15	1	0	16QAM	16.86	16.81
1880.0	18900	15	1	36	16QAM	17.03	17.01
1880.0	18900	15	1	74	16QAM	17.09	17.08
1880.0	18900	15	37	0	16QAM	16.86	16.87
1880.0	18900	15	37	18	16QAM	17.06	17.05
1880.0	18900	15	37	38	16QAM	17.03	17.04
1880.0	18900	15	75	0	16QAM	16.93	16.90

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1902.5	19125	15	1	0	QPSK	17.48	17.42
1902.5	19125	15	1	36	QPSK	17.59	17.59
1902.5	19125	15	1	74	QPSK	17.18	17.20
1902.5	19125	15	37	0	QPSK	17.59	17.61
1902.5	19125	15	37	18	QPSK	17.40	17.38
1902.5	19125	15	37	38	QPSK	17.47	17.42
1902.5	19125	15	75	0	QPSK	17.35	17.26
1902.5	19125	15	1	0	16QAM	17.40	17.60
1902.5	19125	15	1	36	16QAM	17.32	17.34
1902.5	19125	15	1	74	16QAM	16.90	17.02
1902.5	19125	15	37	0	16QAM	17.56	17.60
1902.5	19125	15	37	18	16QAM	17.46	17.39
1902.5	19125	15	37	38	16QAM	17.44	17.49
1902.5	19125	15	75	0	16QAM	17.35	17.38
1860.0	18700	20	1	0	QPSK	17.36	17.25
1860.0	18700	20	1	49	QPSK	17.09	17.06
1860.0	18700	20	1	99	QPSK	16.80	16.82
1860.0	18700	20	50	0	QPSK	17.13	17.05
1860.0	18700	20	50	24	QPSK	17.02	16.94
1860.0	18700	20	50	50	QPSK	16.96	16.88
1860.0	18700	20	100	0	QPSK	16.98	16.96
1860.0	18700	20	1	0	16QAM	16.96	16.94
1860.0	18700	20	1	49	16QAM	16.81	17.06
1860.0	18700	20	1	99	16QAM	16.88	16.88
1860.0	18700	20	50	0	16QAM	17.15	17.19
1860.0	18700	20	50	24	16QAM	16.98	16.90
1860.0	18700	20	50	50	16QAM	17.00	16.98
1860.0	18700	20	100	0	16QAM	16.98	16.95

(Table LTE1900, 004402/47/351408/5 continues)

(Table LTE1900, 004402/47/351408/5 continues)

Frequency (MHz)	Channel Number	Bandwidth (MHz)	RB Number	RB Offset	Modulation	Max Average Power (dBm)	Reduced Power(dBm)
1880.0	18900	20	1	0	QPSK	17.04	16.95
1880.0	18900	20	1	49	QPSK	17.45	17.36
1880.0	18900	20	1	99	QPSK	17.47	17.43
1880.0	18900	20	50	0	QPSK	16.84	16.80
1880.0	18900	20	50	24	QPSK	17.29	17.22
1880.0	18900	20	50	50	QPSK	17.23	17.07
1880.0	18900	20	100	0	QPSK	17.11	17.25
1880.0	18900	20	1	0	16QAM	16.80	16.82
1880.0	18900	20	1	49	16QAM	17.01	16.89
1880.0	18900	20	1	99	16QAM	17.11	17.21
1880.0	18900	20	50	0	16QAM	16.85	16.85
1880.0	18900	20	50	24	16QAM	17.02	17.02
1880.0	18900	20	50	50	16QAM	17.10	17.08
1880.0	18900	20	100	0	16QAM	17.08	17.03
1900.0	19100	20	1	0	QPSK	17.60	17.60
1900.0	19100	20	1	49	QPSK	17.56	17.60
1900.0	19100	20	1	99	QPSK	17.20	17.10
1900.0	19100	20	50	0	QPSK	17.64	17.58
1900.0	19100	20	50	24	QPSK	17.53	17.43
1900.0	19100	20	50	50	QPSK	17.25	17.19
1900.0	19100	20	100	0	QPSK	17.23	17.20
1900.0	19100	20	1	0	16QAM	17.36	17.32
1900.0	19100	20	1	49	16QAM	17.28	17.25
1900.0	19100	20	1	99	16QAM	16.93	16.91
1900.0	19100	20	50	0	16QAM	17.45	17.45
1900.0	19100	20	50	24	16QAM	17.36	17.42
1900.0	19100	20	50	50	16QAM	17.20	17.13
1900.0	19100	20	100	0	16QAM	17.26	17.21

APPENDIX H: CONDUCTED POWER MEASUREMENTS FOR SUPPORTED GSM/GPRS/EGPRS TRANSMISSION MODES

H.1 Power Tuning Targets

FULL POWER

GSM/GPRS/EGPRS 850 Body-worn			
Slot configuration	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz
GPRS 1-slot	32.5	32.5	32.5
GPRS 2-slot	30.0	30.0	30.0
GPRS 3-slot	28.2	28.2	28.2
GPRS 4-slot	27.0	27.0	27.0
EGRPS 1-slot	27.0	27.0	27.0
EGPRS 2-slot	27.0	27.0	27.0
EGPRS 3-slot	27.0	27.0	27.0
EGPRS 4-slot	26.5	26.5	26.5

GSM/GPRS/EGPRS 1900 Body-worn			
Slot configuration	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz
GPRS 1-slot	30.0	30.0	30.0
GPRS 2-slot	27.0	27.0	27.0
GPRS 3-slot	25.2	25.2	25.2
GPRS 4-slot	24.0	24.0	24.0
EGRPS 1-slot	25.5	25.5	25.5
EGPRS 2-slot	24.5	24.5	24.5
EGPRS 3-slot	24.5	24.5	24.5
EGPRS 4-slot	23.2	23.2	23.2

REDUCED POWER

GSM/GPRS/EGPRS 850 Body-worn			
Slot configuration	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz
GPRS 1-slot	30.0	30.0	30.0
GPRS 2-slot	27.5	27.5	27.5
GPRS 3-slot	25.2	25.2	25.2
GPRS 4-slot	25.0	25.0	25.0
EGRPS 1-slot	27.0	27.0	27.0
EGPRS 2-slot	27.0	27.0	27.0
EGPRS 3-slot	25.0	25.0	25.0
EGPRS 4-slot	24.5	24.5	24.5

GSM/GPRS/EGPRS 1900 Body-worn			
Slot configuration	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz
GPRS 1-slot	26.0	26.0	26.0
GPRS 2-slot	22.5	22.5	22.5
GPRS 3-slot	22.2	22.2	22.2
GPRS 4-slot	22.0	22.0	22.0
EGRPS 1-slot	25.5	25.5	25.5
EGPRS 2-slot	22.0	22.0	22.0
EGPRS 3-slot	22.0	22.0	22.0
EGPRS 4-slot	21.7	21.7	21.7

H.2 Conducted Power from the Samples used in the Testing

Type: RX-114; Serial number: 004402/47/351342/6 used for

- GSM/GPRS/EGPRS850 FULL POWER Body-worn SAR measurements

GSM/GPRS/EGPRS 850 Body-worn			
Slot configuration	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz
GPRS 1-slot	32.63	32.61	32.60
GPRS 2-slot	30.16	30.13	30.16
GPRS 3-slot	28.54	28.42	28.33
GPRS 4-slot	27.21	27.05	27.35
EGPRS 1-slot	27.07	27.06	27.04
EGPRS 2-slot	27.28	27.20	27.23
EGPRS 3-slot	27.14	27.10	27.06
EGPRS 4-slot	26.76	26.66	26.67

Type: RX-114; Serial number: 004402/47/351393/9 used for

- GSM/GPRS/EGPRS850 REDUCED POWER Body-worn SAR measurements

GSM/GPRS/EGPRS 850 Body-worn			
Slot configuration	CH 128 824.2 MHz	CH 190 836.6 MHz	CH 251 848.8 MHz
GPRS 1-slot	29.60	29.50	29.50
GPRS 2-slot	27.30	27.20	27.10
GPRS 3-slot	25.20	25.10	24.90
GPRS 4-slot	25.00	24.90	24.80
EGPRS 1-slot	26.80	26.70	26.60
EGPRS 2-slot	26.80	26.70	26.50
EGPRS 3-slot	24.50	24.50	24.60
EGPRS 4-slot	24.50	24.60	24.40

Type: RX-114; Serial number: 004402/47/351347/5 used for

- GSM/GPRS/EGPRS1900 FULL POWER Body-worn SAR measurements

GSM/GPRS/EGPRS 1900 Body-worn			
Slot configuration	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz
GPRS 1-slot	30.24	30.18	30.26
GPRS 2-slot	27.34	27.35	27.26
GPRS 3-slot	25.36	25.44	25.43
GPRS 4-slot	24.34	24.21	24.27
EGRPS 1-slot	25.65	25.61	25.61
EGPRS 2-slot	24.83	24.75	24.77
EGPRS 3-slot	24.68	24.63	24.67
EGPRS 4-slot	23.55	23.51	23.51

Type: RX-114; Serial number: 004402/47/351408/5 used for

- GSM/GPRS/EGPRS1900 REDUCED POWER Body-worn SAR measurements

GSM/GPRS/EGPRS 1900 Body-worn			
Slot configuration	CH 512 1850.2 MHz	CH 661 1880.0 MHz	CH 810 1909.8 MHz
GPRS 1-slot	25.80	25.90	26.10
GPRS 2-slot	22.40	22.40	22.50
GPRS 3-slot	22.40	22.40	22.50
GPRS 4-slot	22.10	22.10	22.20
EGRPS 1-slot	25.40	25.50	25.70
EGPRS 2-slot	21.70	21.80	21.90
EGPRS 3-slot	21.70	21.70	21.90
EGPRS 4-slot	21.60	21.70	21.80

APPENDIX I: CONDUCTED POWER MEASUREMENTS FOR SUPPORTED WCDMA TRANSMISSION MODES

I.1 Power Tuning Targets

FULL POWER

WCDMA 850 (Band 5) Body-worn			
Mode	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz
WCDMA	23.5	23.5	23.5

WCDMA1900 (Band 2) Body-worn			
Mode	CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz
WCDMA	23.5	23.5	23.5

REDUCED POWER

WCDMA 850 (Band 5) Body-worn			
Mode	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz
WCDMA	20.0	20.0	20.0

WCDMA1900 (Band 2) Body-worn			
Mode	CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz
WCDMA	17.0	17.0	17.0

I.2 Conducted Power from the Samples used in the Testing

Type: RX-114; Serial number: 004402/47/351342/6

- Used for WCDMA850 (Band 5) FULL POWER Body-worn SAR measurements.

WCDMA 850 (Band 5) Body-worn			
Mode	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz
WCDMA	23.77	23.73	23.68

Type: RX-114; Serial number: 004402/47/351393/9

- Used for WCDMA850 (Band 5) REDUCED POWER Body-worn SAR measurements.

WCDMA 850 (Band 5) Body-worn			
Mode	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz
WCDMA	20.10	20.23	20.07

Type: RX-114; Serial number: 004402/47/351347/5

- Used for WCDMA1900 (Band 2) FULL POWER Body-worn SAR measurements.

WCDMA1900 (Band 2) Body-worn			
Mode	CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz
WCDMA	23.67	23.64	23.60

Type: RX-114; Serial number: 004402/47/351408/5

- Used for WCDMA1900 (Band 2) REDUCED POWER Body-worn SAR measurements.

WCDMA1900 (Band 2) Body-worn			
Mode	CH 9262 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz
WCDMA	16.98	17.02	17.15

WCDMA and HSUPA Subtest mode conducted powers, measured from a separate, fully representative sample are presented in Appendix D.

APPENDIX J: CONDUCTED POWER RESULTS FOR WLAN2450 AND WLAN5000

J.1 Power Tuning Targets Body worn Measurements - WLAN2450 – Main Antenna

WLAN 2.4 GHz Tuning Targets – 20 MHz channel bandwidth					
Mode	CH 1	CH 2	CH 6	CH 10	CH 11
b-mode WLAN DSSS 1 Mbps	13.00	13.00	13.00	13.00	13.00
b-mode WLAN DSSS 2 Mbps	13.00	13.00	13.00	13.00	13.00
b-mode WLAN DSSS 5.5 Mbps	13.00	13.00	13.00	13.00	13.00
b-mode WLAN DSSS 11 Mbps	13.00	13.00	13.00	13.00	13.00
g-mode WLAN OFDM 6 Mbps	10.00	10.00	11.50	10.00	10.00
g-mode WLAN OFDM 9 Mbps	10.00	10.00	11.50	10.00	10.00
g-mode WLAN OFDM 12 Mbps	10.00	10.00	11.50	10.00	10.00
g-mode WLAN OFDM 18 Mbps	10.00	10.00	11.50	10.00	10.00
g-mode WLAN OFDM 24 Mbps	10.00	10.00	11.50	10.00	10.00
g-mode WLAN OFDM 36 Mbps	10.00	10.00	11.50	10.00	10.00
g-mode WLAN OFDM 48 Mbps	10.00	10.00	11.50	10.00	10.00
g-mode WLAN OFDM 54 Mbps	10.00	10.00	11.50	10.00	10.00
n-mode MCS 0: OFDM 6.5 / 7.25 Mbps	8.50	8.50	10.00	8.50	8.50
n-mode MCS 1: OFDM 13.0 / 14.4 Mbps	6.50	6.50	8.00	6.50	6.50
n-mode MCS 2: OFDM 19.5 / 21.7 Mbps	6.50	6.50	8.00	6.50	6.50
n-mode MCS 3: OFDM 26.0 / 28.9 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 4: OFDM 39.0 / 43.3 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 5: OFDM 52.0 / 57.8 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 6: OFDM 58.5 / 65.0 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 7: OFDM 65.0 / 72.2 Mbps	5.50	5.50	7.00	5.50	5.50
n-mode MCS 8: OFDM 13.0 / 14.5 Mbps	8.50	8.50	10.00	8.50	8.50
n-mode MCS 9: OFDM 26.0 / 28.8 Mbps	6.50	6.50	8.00	6.50	6.50
n-mode MCS 10: OFDM 39.0 / 43.3 Mbps	6.50	6.50	8.00	6.50	6.50
n-mode MCS 11: OFDM 52.0 / 57.7 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 12: OFDM 78.0 / 86.6 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 13: OFDM 104.0 / 115.5 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 14: OFDM 117.0 / 130.0 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 15: OFDM 130.0 / 144.4 Mbps	5.50	5.50	7.00	5.50	5.50

(Tables continues)

(Tables continues)

WLAN 2.4 GHz Tuning Targets – 40 MHz channel bandwidth					
Mode	CH 3 (1...5)	CH 4 (2...6)	CH 6 (4...8)	CH 8 (6...10)	CH 9 (7...11)
n-mode MCS 0: OFDM 13.5 / 15.0 Mbps	9.00	-	9.00	-	9.00
n-mode MCS 1: OFDM 27.0 / 30.0 Mbps	7.00	-	7.00	-	7.00
n-mode MCS 2: OFDM 40.5 / 45.0 Mbps	7.00	-	7.00	-	7.00
n-mode MCS 3: OFDM 54.0 / 60.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 4: OFDM 81.0 / 90.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 5: OFDM 108.0 / 120.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 6: OFDM 121.5 / 135.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 7: OFDM 135.0 / 150.0 Mbps	4.00	-	4.00	-	4.00
n-mode MCS 8: OFDM 27.0 / 30.0 Mbps	9.00	-	9.00	-	9.00
n-mode MCS 9: OFDM 54.0 / 60.0 Mbps	7.00	-	7.00	-	7.00
n-mode MCS 10: OFDM 81.0 / 90.0 Mbps	7.00	-	7.00	-	7.00
n-mode MCS 11: OFDM 108.0 / 120.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 12: OFDM 162.0 / 180.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 13: OFDM 216.0 / 240.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 14: OFDM 243.0 / 270.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 15: OFDM 270.0 / 300.0 Mbps	4.00	-	4.00	-	4.00

J.2 Power Tuning Targets Body worn Measurements - WLAN2450 - AUX Antenna

WLAN 2.4 GHz Tuning Targets – 20 MHz channel bandwidth					
Mode	CH 1	CH 2	CH 6	CH 10	CH 11
b-mode WLAN DSSS 1 Mbps	13.00	13.00	13.00	13.00	13.00
b-mode WLAN DSSS 2 Mbps	13.00	13.00	13.00	13.00	13.00
b-mode WLAN DSSS 5.5 Mbps	13.00	13.00	13.00	13.00	13.00
b-mode WLAN DSSS 11 Mbps	13.00	13.00	13.00	13.00	13.00
g-mode WLAN OFDM 6 Mbps	10.00	10.00	11.50	10.00	10.00
g-mode WLAN OFDM 9 Mbps	10.00	10.00	11.50	10.00	10.00
g-mode WLAN OFDM 12 Mbps	10.00	10.00	11.50	10.00	10.00
g-mode WLAN OFDM 18 Mbps	10.00	10.00	11.50	10.00	10.00
g-mode WLAN OFDM 24 Mbps	10.00	10.00	11.50	10.00	10.00
g-mode WLAN OFDM 36 Mbps	10.00	10.00	11.50	10.00	10.00
g-mode WLAN OFDM 48 Mbps	10.00	10.00	11.50	10.00	10.00
g-mode WLAN OFDM 54 Mbps	10.00	10.00	11.50	10.00	10.00
n-mode MCS 0: OFDM 6.5 / 7.25 Mbps	8.50	8.50	10.00	8.50	8.50
n-mode MCS 1: OFDM 13.0 / 14.4 Mbps	6.50	6.50	8.00	6.50	6.50
n-mode MCS 2: OFDM 19.5 / 21.7 Mbps	6.50	6.50	8.00	6.50	6.50
n-mode MCS 3: OFDM 26.0 / 28.9 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 4: OFDM 39.0 / 43.3 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 5: OFDM 52.0 / 57.8 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 6: OFDM 58.5 / 65.0 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 7: OFDM 65.0 / 72.2 Mbps	5.50	5.50	7.00	5.50	5.50
n-mode MCS 8: OFDM 13.0 / 14.5 Mbps	8.50	8.50	10.00	8.50	8.50
n-mode MCS 9: OFDM 26.0 / 28.8 Mbps	6.50	6.50	8.00	6.50	6.50
n-mode MCS 10: OFDM 39.0 / 43.3 Mbps	6.50	6.50	8.00	6.50	6.50
n-mode MCS 11: OFDM 52.0 / 57.7 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 12: OFDM 78.0 / 86.6 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 13: OFDM 104.0 / 115.5 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 14: OFDM 117.0 / 130.0 Mbps	8.00	8.00	9.50	8.00	8.00
n-mode MCS 15: OFDM 130.0 / 144.4 Mbps	5.50	5.50	7.00	5.50	5.50

(Tables continues)

(Tables continues)

WLAN 2.4 GHz Tuning Targets – 40 MHz channel bandwidth					
Mode	CH 3 (1...5)	CH 4 (2...6)	CH 6 (4...8)	CH 8 (6...10)	CH 9 (7...11)
n-mode MCS 0: OFDM 13.5 / 15.0 Mbps	9.00	-	9.00	-	9.00
n-mode MCS 1: OFDM 27.0 / 30.0 Mbps	7.00	-	7.00	-	7.00
n-mode MCS 2: OFDM 40.5 / 45.0 Mbps	7.00	-	7.00	-	7.00
n-mode MCS 3: OFDM 54.0 / 60.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 4: OFDM 81.0 / 90.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 5: OFDM 108.0 / 120.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 6: OFDM 121.5 / 135.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 7: OFDM 135.0 / 150.0 Mbps	4.00	-	4.00	-	4.00
n-mode MCS 8: OFDM 27.0 / 30.0 Mbps	9.00	-	9.00	-	9.00
n-mode MCS 9: OFDM 54.0 / 60.0 Mbps	7.00	-	7.00	-	7.00
n-mode MCS 10: OFDM 81.0 / 90.0 Mbps	7.00	-	7.00	-	7.00
n-mode MCS 11: OFDM 108.0 / 120.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 12: OFDM 162.0 / 180.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 13: OFDM 216.0 / 240.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 14: OFDM 243.0 / 270.0 Mbps	6.50	-	6.50	-	6.50
n-mode MCS 15: OFDM 270.0 / 300.0 Mbps	4.00	-	4.00	-	4.00

J.3 Power Tuning Targets Body worn Measurements - WLAN5000 - Main Antenna

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 20 MHz Tuning Targets					
			36	40	44	48	52	56
802.11a	BPSK	6	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	BPSK	9	6.50	6.50	6.50	6.50	7.00	7.00
802.11a	QPSK	12	6.50	6.50	6.50	6.50	7.00	7.00
802.11a	QPSK	18	6.50	6.50	6.50	6.50	7.00	7.00
802.11a	16QAM	24	6.50	6.50	6.50	6.50	7.00	7.00
802.11a	16QAM	36	6.50	6.50	6.50	6.50	7.00	7.00
802.11a	64QAM	48	6.00	6.00	6.00	6.00	6.50	6.50
802.11a	64QAM	54	6.00	6.00	6.00	6.00	6.50	6.50
802.11n	BPSK	6.5 / 7.25	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	13.0 / 14.4	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	QPSK	19.5 / 21.7	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	16QAM	26.0 / 28.9	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	16QAM	39.0 / 43.3	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	64QAM	52.0 / 57.8	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	64QAM	58.5 / 65.0	6.00	6.00	6.00	6.00	6.50	6.50
802.11n	64QAM	65.0 / 72.2	6.00	6.00	6.00	6.00	6.50	6.50
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	26.0 / 28.9	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	QPSK	39.0 / 43.3	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	16QAM	52.0 / 57.8	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	16QAM	78.0 / 86.7	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	64QAM	104.0 / 115.6	6.50	6.50	6.50	6.50	7.00	7.00
802.11n	64QAM	117.0 / 130.0	6.00	6.00	6.00	6.00	6.50	6.50
802.11n	64QAM	130.0 / 144.4	6.00	6.00	6.00	6.00	6.50	6.50

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 40 MHz Tuning Targets						
			38 (36+40)	42 (40+44)	46 (44+48)	50 (48+52)	54 (52+56)	58 (56+60)	62 (60+64)
802.11n	BPSK	13.5 / 15.0	8.00	8.00	8.00	8.00	8.00	8.00	8.00
802.11n	QPSK	27.0 / 30.0	6.00	6.00	6.00	6.00	6.00	6.00	6.00
802.11n	QPSK	40.5 / 45.0	6.00	6.00	6.00	6.00	6.00	6.00	6.00
802.11n	16QAM	54.0 / 60.0	5.00	5.00	5.00	5.00	5.00	5.00	5.00
802.11n	16QAM	81.0 / 90.0	5.00	5.00	5.00	5.00	5.00	5.00	5.00
802.11n	64QAM	108.0 / 120.0	5.00	5.00	5.00	5.00	5.00	5.00	5.00
802.11n	64QAM	121.5 / 135.0	3.00	3.00	3.00	3.00	3.00	3.00	3.00
802.11n	64QAM	135.0 / 150.0	2.50	2.50	2.50	2.50	2.50	2.50	2.50
802.11ac	256QAM	162.0 / 180.0	-	-	-	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.00	8.00	8.00	8.00	8.00	8.00	8.00
802.11n	QPSK	54.0 / 60.0	6.00	6.00	6.00	6.00	6.00	6.00	6.00
802.11n	QPSK	81.0 / 90.0	6.00	6.00	6.00	6.00	6.00	6.00	6.00
802.11n	16QAM	108.0 / 120.0	5.00	5.00	5.00	5.00	5.00	5.00	5.00
802.11n	16QAM	162.0 / 180.0	5.00	5.00	5.00	5.00	5.00	5.00	5.00
802.11n	64QAM	216.0 / 240.0	5.00	5.00	5.00	5.00	5.00	5.00	5.00
802.11n	64QAM	243.0 / 270.0	3.00	3.00	3.00	3.00	3.00	3.00	3.00
802.11n	64QAM	270.0 / 300.0	2.50	2.50	2.50	2.50	2.50	2.50	2.50

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 20 MHz Tuning Targets					
			60	64	100	104	108	112
802.11a	BPSK	6	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	BPSK	9	7.00	7.00	6.50	6.50	6.50	6.50
802.11a	QPSK	12	7.00	7.00	6.50	6.50	6.50	6.50
802.11a	QPSK	18	7.00	7.00	6.50	6.50	6.50	6.50
802.11a	16QAM	24	7.00	7.00	6.50	6.50	6.50	6.50
802.11a	16QAM	36	7.00	7.00	6.50	6.50	6.50	6.50
802.11a	64QAM	48	6.50	6.50	6.00	6.00	6.00	6.00
802.11a	64QAM	54	6.50	6.50	6.00	6.00	6.00	6.00
802.11n	BPSK	6.5 / 7.25	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	13.0 / 14.4	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	QPSK	19.5 / 21.7	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	16QAM	26.0 / 28.9	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	16QAM	39.0 / 43.3	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	64QAM	52.0 / 57.8	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	64QAM	58.5 / 65.0	6.50	6.50	6.00	6.00	6.00	6.00
802.11n	64QAM	65.0 / 72.2	6.50	6.50	6.00	6.00	6.00	6.00
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	26.0 / 28.9	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	QPSK	39.0 / 43.3	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	16QAM	52.0 / 57.8	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	16QAM	78.0 / 86.7	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	64QAM	104.0 / 115.6	7.00	7.00	6.50	6.50	6.50	6.50
802.11n	64QAM	117.0 / 130.0	6.50	6.50	6.00	6.00	6.00	6.00
802.11n	64QAM	130.0 / 144.4	6.50	6.50	6.00	6.00	6.00	6.00

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz Tuning Targets					
			102 (100+104)	106 (104+108)	110 (108+112)	114 (112+116)	118 (116+120)	122 (120+124)
802.11n	BPSK	13.5 / 15.0	7.00	7.00	7.00	7.00	7.00	6.50
802.11n	QPSK	27.0 / 30.0	5.00	5.00	5.00	5.00	5.00	4.50
802.11n	QPSK	40.5 / 45.0	5.00	5.00	5.00	5.00	5.00	4.50
802.11n	16QAM	54.0 / 60.0	4.00	4.00	4.00	4.00	4.00	3.50
802.11n	16QAM	81.0 / 90.0	4.00	4.00	4.00	4.00	4.00	3.50
802.11n	64QAM	108.0 / 120.0	4.00	4.00	4.00	4.00	4.00	3.50
802.11n	64QAM	121.5 / 135.0	2.00	2.00	2.00	2.00	2.00	1.50
802.11n	64QAM	135.0 / 150.0	1.50	1.50	1.50	1.50	1.50	1.00
802.11ac	256QAM	162.0 / 180.0	-	-	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	7.00	7.00	7.00	7.00	7.00	6.50
802.11n	QPSK	54.0 / 60.0	5.00	5.00	5.00	5.00	5.00	4.50
802.11n	QPSK	81.0 / 90.0	5.00	5.00	5.00	5.00	5.00	4.50
802.11n	16QAM	108.0 / 120.0	4.00	4.00	4.00	4.00	4.00	3.50
802.11n	16QAM	162.0 / 180.0	4.00	4.00	4.00	4.00	4.00	3.50
802.11n	64QAM	216.0 / 240.0	4.00	4.00	4.00	4.00	4.00	3.50
802.11n	64QAM	243.0 / 270.0	2.00	2.00	2.00	2.00	2.00	1.50
802.11n	64QAM	270.0 / 300.0	1.50	1.50	1.50	1.50	1.50	1.00

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 20 MHz Tuning Targets					
			116	120	124	128	132	136
802.11a	BPSK	6	7.50	6.50	6.50	6.50	6.50	6.50
802.11a	BPSK	9	6.50	6.00	6.00	6.00	6.00	6.00
802.11a	QPSK	12	6.50	6.00	6.00	6.00	6.00	6.00
802.11a	QPSK	18	6.50	6.00	6.00	6.00	6.00	6.00
802.11a	16QAM	24	6.50	6.00	6.00	6.00	6.00	6.00
802.11a	16QAM	36	6.50	6.00	6.00	6.00	6.00	6.00
802.11a	64QAM	48	6.00	5.00	5.00	5.00	5.00	5.00
802.11a	64QAM	54	6.00	5.00	5.00	5.00	5.00	5.00
802.11n	BPSK	6.5 / 7.25	7.50	6.50	6.50	6.50	6.50	6.50
802.11n	QPSK	13.0 / 14.4	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	QPSK	19.5 / 21.7	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	16QAM	26.0 / 28.9	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	16QAM	39.0 / 43.3	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	64QAM	52.0 / 57.8	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	64QAM	58.5 / 65.0	6.00	5.00	5.00	5.00	5.00	5.00
802.11n	64QAM	65.0 / 72.2	6.00	5.00	5.00	5.00	5.00	5.00
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	7.50	6.50	6.50	6.50	6.50	6.50
802.11n	QPSK	26.0 / 28.9	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	QPSK	39.0 / 43.3	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	16QAM	52.0 / 57.8	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	16QAM	78.0 / 86.7	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	64QAM	104.0 / 115.6	6.50	6.00	6.00	6.00	6.00	6.00
802.11n	64QAM	117.0 / 130.0	6.00	5.00	5.00	5.00	5.00	5.00
802.11n	64QAM	130.0 / 144.4	6.00	5.00	5.00	5.00	5.00	5.00

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz Tuning Targets			
			126 (124+128)	130 (128+132)	134 (132+136)	138 (136+140)
802.11n	BPSK	13.5 / 15.0	6.50	6.50	7.00	7.00
802.11n	QPSK	27.0 / 30.0	4.50	4.50	5.00	5.00
802.11n	QPSK	40.5 / 45.0	4.50	4.50	5.00	5.00
802.11n	16QAM	54.0 / 60.0	3.50	3.50	4.00	4.00
802.11n	16QAM	81.0 / 90.0	3.50	3.50	4.00	4.00
802.11n	64QAM	108.0 / 120.0	3.50	3.50	4.00	4.00
802.11n	64QAM	121.5 / 135.0	1.50	1.50	2.00	2.00
802.11n	64QAM	135.0 / 150.0	1.00	1.00	1.50	1.50
802.11ac	256QAM	162.0 / 180.0	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-
802.11n	BPSK	27.0 / 30.0	6.50	6.50	7.00	7.00
802.11n	QPSK	54.0 / 60.0	4.50	4.50	5.00	5.00
802.11n	QPSK	81.0 / 90.0	4.50	4.50	5.00	5.00
802.11n	16QAM	108.0 / 120.0	3.50	3.50	4.00	4.00
802.11n	16QAM	162.0 / 180.0	3.50	3.50	4.00	4.00
802.11n	64QAM	216.0 / 240.0	3.50	3.50	4.00	4.00
802.11n	64QAM	243.0 / 270.0	1.50	1.50	2.00	2.00
802.11n	64QAM	270.0 / 300.0	1.00	1.00	1.50	1.50

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 20 MHz Tuning Targets					
			140	149	153	157	161	165
802.11a	BPSK	6	6.50	7.50	7.50	7.50	7.50	7.50
802.11a	BPSK	9	6.00	7.00	7.00	7.00	7.00	7.00
802.11a	QPSK	12	6.00	7.00	7.00	7.00	7.00	7.00
802.11a	QPSK	18	6.00	7.00	7.00	7.00	7.00	7.00
802.11a	16QAM	24	6.00	7.00	7.00	7.00	7.00	7.00
802.11a	16QAM	36	6.00	7.00	7.00	7.00	7.00	7.00
802.11a	64QAM	48	5.00	6.00	6.00	6.00	6.00	6.00
802.11a	64QAM	54	5.00	6.00	6.00	6.00	6.00	6.00
802.11n	BPSK	6.5 / 7.25	6.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	13.0 / 14.4	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	QPSK	19.5 / 21.7	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	16QAM	26.0 / 28.9	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	16QAM	39.0 / 43.3	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	64QAM	52.0 / 57.8	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	64QAM	58.5 / 65.0	5.00	6.00	6.00	6.00	6.00	6.00
802.11n	64QAM	65.0 / 72.2	5.00	6.00	6.00	6.00	6.00	6.00
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	6.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	26.0 / 28.9	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	QPSK	39.0 / 43.3	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	16QAM	52.0 / 57.8	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	16QAM	78.0 / 86.7	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	64QAM	104.0 / 115.6	6.00	7.00	7.00	7.00	7.00	7.00
802.11n	64QAM	117.0 / 130.0	5.00	6.00	6.00	6.00	6.00	6.00
802.11n	64QAM	130.0 / 144.4	5.00	6.00	6.00	6.00	6.00	6.00

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 40 MHz Tuning Targets			
			151 (149+153)	155 (153+157)	159 (157+161)	163 (161+165)
802.11n	BPSK	13.5 / 15.0	8.00	8.00	8.00	8.00
802.11n	QPSK	27.0 / 30.0	6.00	6.00	6.00	6.00
802.11n	QPSK	40.5 / 45.0	6.00	6.00	6.00	6.00
802.11n	16QAM	54.0 / 60.0	5.00	5.00	5.00	5.00
802.11n	16QAM	81.0 / 90.0	5.00	5.00	5.00	5.00
802.11n	64QAM	108.0 / 120.0	5.00	5.00	5.00	5.00
802.11n	64QAM	121.5 / 135.0	3.00	3.00	3.00	3.00
802.11n	64QAM	135.0 / 150.0	2.50	2.50	2.50	2.50
802.11ac	256QAM	162.0 / 180.0	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.00	8.00	8.00	8.00
802.11n	QPSK	54.0 / 60.0	6.00	6.00	6.00	6.00
802.11n	QPSK	81.0 / 90.0	6.00	6.00	6.00	6.00
802.11n	16QAM	108.0 / 120.0	5.00	5.00	5.00	5.00
802.11n	16QAM	162.0 / 180.0	5.00	5.00	5.00	5.00
802.11n	64QAM	216.0 / 240.0	5.00	5.00	5.00	5.00
802.11n	64QAM	243.0 / 270.0	3.00	3.00	3.00	3.00
802.11n	64QAM	270.0 / 300.0	2.50	2.50	2.50	2.50

J.4 Power Tuning Targets Body worn Measurements - WLAN5000 - AUX Antenna

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz Tuning Targets					
			36	40	44	48	52	56
802.11a	BPSK	6	9.50	9.50	9.50	9.50	8.50	8.50
802.11a	BPSK	9	8.50	8.50	8.50	8.50	7.50	7.50
802.11a	QPSK	12	8.50	8.50	8.50	8.50	7.50	7.50
802.11a	QPSK	18	8.50	8.50	8.50	8.50	7.50	7.50
802.11a	16QAM	24	8.50	8.50	8.50	8.50	7.50	7.50
802.11a	16QAM	36	8.50	8.50	8.50	8.50	7.50	7.50
802.11a	64QAM	48	8.50	8.50	8.50	8.50	7.50	7.50
802.11a	64QAM	54	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	BPSK	6.5 / 7.25	9.50	9.50	9.50	9.50	8.50	8.50
802.11n	QPSK	13.0 / 14.4	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	QPSK	19.5 / 21.7	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	16QAM	26.0 / 28.9	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	16QAM	39.0 / 43.3	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	64QAM	52.0 / 57.8	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	64QAM	58.5 / 65.0	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	64QAM	65.0 / 72.2	8.50	8.50	8.50	8.50	7.50	7.50
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	9.50	9.50	9.50	9.50	8.50	8.50
802.11n	QPSK	26.0 / 28.9	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	QPSK	39.0 / 43.3	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	16QAM	52.0 / 57.8	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	16QAM	78.0 / 86.7	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	64QAM	104.0 / 115.6	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	64QAM	117.0 / 130.0	8.50	8.50	8.50	8.50	7.50	7.50
802.11n	64QAM	130.0 / 144.4	8.50	8.50	8.50	8.50	7.50	7.50

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 40 MHz Tuning Targets						
			38 (36+40)	42 (40+44)	46 (44+48)	50 (48+52)	54 (52+56)	58 (56+60)	62 (60+64)
802.11n	BPSK	13.5 / 15.0	8.50	8.50	8.50	8.00	8.00	8.00	8.00
802.11n	QPSK	27.0 / 30.0	6.50	6.50	6.50	6.00	6.00	6.00	6.00
802.11n	QPSK	40.5 / 45.0	6.50	6.50	6.50	6.00	6.00	6.00	6.00
802.11n	16QAM	54.0 / 60.0	6.00	6.00	6.00	5.50	5.50	5.50	5.50
802.11n	16QAM	81.0 / 90.0	6.00	6.00	6.00	5.50	5.50	5.50	5.50
802.11n	64QAM	108.0 / 120.0	6.00	6.00	6.00	5.50	5.50	5.50	5.50
802.11n	64QAM	121.5 / 135.0	4.50	4.50	4.50	4.00	4.00	4.00	4.00
802.11n	64QAM	135.0 / 150.0	3.50	3.50	3.50	3.00	3.00	3.00	3.00
802.11ac	256QAM	162.0 / 180.0	-	-	-	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.50	8.50	8.50	8.00	8.00	8.00	8.00
802.11n	QPSK	54.0 / 60.0	6.50	6.50	6.50	6.00	6.00	6.00	6.00
802.11n	QPSK	81.0 / 90.0	6.50	6.50	6.50	6.00	6.00	6.00	6.00
802.11n	16QAM	108.0 / 120.0	6.00	6.00	6.00	5.50	5.50	5.50	5.50
802.11n	16QAM	162.0 / 180.0	6.00	6.00	6.00	5.50	5.50	5.50	5.50
802.11n	64QAM	216.0 / 240.0	6.00	6.00	6.00	5.50	5.50	5.50	5.50
802.11n	64QAM	243.0 / 270.0	4.50	4.50	4.50	4.00	4.00	4.00	4.00
802.11n	64QAM	270.0 / 300.0	3.50	3.50	3.50	3.00	3.00	3.00	3.00

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 20 MHz Tuning Targets					
			60	64	100	104	108	112
802.11a	BPSK	6	8.50	8.50	8.50	8.50	8.50	8.50
802.11a	BPSK	9	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	QPSK	12	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	QPSK	18	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	16QAM	24	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	16QAM	36	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	64QAM	48	7.50	7.50	7.50	7.50	7.50	7.50
802.11a	64QAM	54	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	BPSK	6.5 / 7.25	8.50	8.50	8.50	8.50	8.50	8.50
802.11n	QPSK	13.0 / 14.4	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	19.5 / 21.7	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	26.0 / 28.9	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	39.0 / 43.3	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	52.0 / 57.8	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	58.5 / 65.0	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	65.0 / 72.2	7.50	7.50	7.50	7.50	7.50	7.50
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	8.50	8.50	8.50	8.50	8.50	8.50
802.11n	QPSK	26.0 / 28.9	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	39.0 / 43.3	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	52.0 / 57.8	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	78.0 / 86.7	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	104.0 / 115.6	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	117.0 / 130.0	7.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	130.0 / 144.4	7.50	7.50	7.50	7.50	7.50	7.50

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz Tuning Targets					
			102 (100+104)	106 (104+108)	110 (108+112)	114 (112+116)	118 (116+120)	122 (120+124)
802.11n	BPSK	13.5 / 15.0	8.00	8.00	8.00	8.00	8.00	9.00
802.11n	QPSK	27.0 / 30.0	6.00	6.00	6.00	6.00	6.00	7.50
802.11n	QPSK	40.5 / 45.0	6.00	6.00	6.00	6.00	6.00	7.50
802.11n	16QAM	54.0 / 60.0	5.50	5.50	5.50	5.50	5.50	6.50
802.11n	16QAM	81.0 / 90.0	5.50	5.50	5.50	5.50	5.50	6.50
802.11n	64QAM	108.0 / 120.0	5.50	5.50	5.50	5.50	5.50	6.50
802.11n	64QAM	121.5 / 135.0	4.00	4.00	4.00	4.00	4.00	4.50
802.11n	64QAM	135.0 / 150.0	3.00	3.00	3.00	3.00	3.00	3.50
802.11ac	256QAM	162.0 / 180.0	-	-	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.00	8.00	8.00	8.00	8.00	9.00
802.11n	QPSK	54.0 / 60.0	6.00	6.00	6.00	6.00	6.00	7.50
802.11n	QPSK	81.0 / 90.0	6.00	6.00	6.00	6.00	6.00	7.50
802.11n	16QAM	108.0 / 120.0	5.50	5.50	5.50	5.50	5.50	6.50
802.11n	16QAM	162.0 / 180.0	5.50	5.50	5.50	5.50	5.50	6.50
802.11n	64QAM	216.0 / 240.0	5.50	5.50	5.50	5.50	5.50	6.50
802.11n	64QAM	243.0 / 270.0	4.00	4.00	4.00	4.00	4.00	4.50
802.11n	64QAM	270.0 / 300.0	3.00	3.00	3.00	3.00	3.00	3.50

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 20 MHz Tuning Targets					
			116	120	124	128	132	136
802.11a	BPSK	6	8.50	9.50	9.50	9.50	9.50	9.50
802.11a	BPSK	9	7.50	8.50	8.50	8.50	8.50	8.50
802.11a	QPSK	12	7.50	8.50	8.50	8.50	8.50	8.50
802.11a	QPSK	18	7.50	8.50	8.50	8.50	8.50	8.50
802.11a	16QAM	24	7.50	8.50	8.50	8.50	8.50	8.50
802.11a	16QAM	36	7.50	8.50	8.50	8.50	8.50	8.50
802.11a	64QAM	48	7.50	8.50	8.50	8.50	8.50	8.50
802.11a	64QAM	54	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	BPSK	6.5 / 7.25	8.50	9.50	9.50	9.50	9.50	9.50
802.11n	QPSK	13.0 / 14.4	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	QPSK	19.5 / 21.7	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	16QAM	26.0 / 28.9	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	16QAM	39.0 / 43.3	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	64QAM	52.0 / 57.8	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	64QAM	58.5 / 65.0	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	64QAM	65.0 / 72.2	7.50	8.50	8.50	8.50	8.50	8.50
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	8.50	9.50	9.50	9.50	9.50	9.50
802.11n	QPSK	26.0 / 28.9	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	QPSK	39.0 / 43.3	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	16QAM	52.0 / 57.8	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	16QAM	78.0 / 86.7	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	64QAM	104.0 / 115.6	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	64QAM	117.0 / 130.0	7.50	8.50	8.50	8.50	8.50	8.50
802.11n	64QAM	130.0 / 144.4	7.50	8.50	8.50	8.50	8.50	8.50

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz Tuning Targets			
			126 (124+128)	130 (128+132)	134 (132+136)	138 (136+140)
802.11n	BPSK	13.5 / 15.0	9.00	9.00	8.50	8.50
802.11n	QPSK	27.0 / 30.0	7.50	7.50	6.50	6.50
802.11n	QPSK	40.5 / 45.0	7.50	7.50	6.50	6.50
802.11n	16QAM	54.0 / 60.0	6.50	6.50	6.00	6.00
802.11n	16QAM	81.0 / 90.0	6.50	6.50	6.00	6.00
802.11n	64QAM	108.0 / 120.0	6.50	6.50	6.00	6.00
802.11n	64QAM	121.5 / 135.0	4.50	4.50	4.50	4.50
802.11n	64QAM	135.0 / 150.0	3.50	3.50	3.50	3.50
802.11ac	256QAM	162.0 / 180.0	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-
802.11n	BPSK	27.0 / 30.0	9.00	9.00	8.50	8.50
802.11n	QPSK	54.0 / 60.0	7.50	7.50	6.50	6.50
802.11n	QPSK	81.0 / 90.0	7.50	7.50	6.50	6.50
802.11n	16QAM	108.0 / 120.0	6.50	6.50	6.00	6.00
802.11n	16QAM	162.0 / 180.0	6.50	6.50	6.00	6.00
802.11n	64QAM	216.0 / 240.0	6.50	6.50	6.00	6.00
802.11n	64QAM	243.0 / 270.0	4.50	4.50	4.50	4.50
802.11n	64QAM	270.0 / 300.0	3.50	3.50	3.50	3.50

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 20 MHz Tuning Targets					
			140	149	153	157	161	165
802.11a	BPSK	6	9.50	8.50	8.50	8.50	8.50	8.50
802.11a	BPSK	9	8.50	7.50	7.50	7.50	7.50	7.50
802.11a	QPSK	12	8.50	7.50	7.50	7.50	7.50	7.50
802.11a	QPSK	18	8.50	7.50	7.50	7.50	7.50	7.50
802.11a	16QAM	24	8.50	7.50	7.50	7.50	7.50	7.50
802.11a	16QAM	36	8.50	7.50	7.50	7.50	7.50	7.50
802.11a	64QAM	48	8.50	7.50	7.50	7.50	7.50	7.50
802.11a	64QAM	54	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	BPSK	6.5 / 7.25	9.50	8.50	8.50	8.50	8.50	8.50
802.11n	QPSK	13.0 / 14.4	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	19.5 / 21.7	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	26.0 / 28.9	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	39.0 / 43.3	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	52.0 / 57.8	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	58.5 / 65.0	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	65.0 / 72.2	8.50	7.50	7.50	7.50	7.50	7.50
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	9.50	8.50	8.50	8.50	8.50	8.50
802.11n	QPSK	26.0 / 28.9	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	QPSK	39.0 / 43.3	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	52.0 / 57.8	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	16QAM	78.0 / 86.7	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	104.0 / 115.6	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	117.0 / 130.0	8.50	7.50	7.50	7.50	7.50	7.50
802.11n	64QAM	130.0 / 144.4	8.50	7.50	7.50	7.50	7.50	7.50

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz Tuning Targets			
			151 (149+153)	155 (153+157)	159 (157+161)	163 (161+165)
802.11n	BPSK	13.5 / 15.0	8.00	8.00	8.00	8.00
802.11n	QPSK	27.0 / 30.0	6.00	6.00	6.00	6.00
802.11n	QPSK	40.5 / 45.0	6.00	6.00	6.00	6.00
802.11n	16QAM	54.0 / 60.0	5.50	5.50	5.50	5.50
802.11n	16QAM	81.0 / 90.0	5.50	5.50	5.50	5.50
802.11n	64QAM	108.0 / 120.0	5.50	5.50	5.50	5.50
802.11n	64QAM	121.5 / 135.0	4.00	4.00	4.00	4.00
802.11n	64QAM	135.0 / 150.0	3.00	3.00	3.00	3.00
802.11ac	256QAM	162.0 / 180.0	-	-	-	-
802.11ac	256QAM	180.0 / 200.0	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.00	8.00	8.00	8.00
802.11n	QPSK	54.0 / 60.0	6.00	6.00	6.00	6.00
802.11n	QPSK	81.0 / 90.0	6.00	6.00	6.00	6.00
802.11n	16QAM	108.0 / 120.0	5.50	5.50	5.50	5.50
802.11n	16QAM	162.0 / 180.0	5.50	5.50	5.50	5.50
802.11n	64QAM	216.0 / 240.0	5.50	5.50	5.50	5.50
802.11n	64QAM	243.0 / 270.0	4.00	4.00	4.00	4.00
802.11n	64QAM	270.0 / 300.0	3.00	3.00	3.00	3.00

J.5 Conducted Power from the Sample used in the WLAN2450 Main Antenna Testing

Type: RX-114; Serial number: 004402/47/351070/3 used for WLAN2450 Body-worn Main Antenna Testing

WLAN 2.4 GHz Conducted Power Measurements – 20 MHz channel bandwidth					
Mode	CH 1	CH 2	CH 6	CH 10	CH 11
b-mode WLAN DSSS 1 Mbps	12.86	12.84	14.39	12.41	13.01
b-mode WLAN DSSS 2 Mbps	12.61	12.80	14.37	12.38	12.95
b-mode WLAN DSSS 5.5 Mbps	12.74	12.96	14.54	12.47	13.09
b-mode WLAN DSSS 11 Mbps	12.75	12.97	14.53	12.50	13.09
g-mode WLAN OFDM 6 Mbps	10.22	10.46	12.02	10.25	10.22
g-mode WLAN OFDM 9 Mbps	10.24	10.54	12.07	10.77	10.25
g-mode WLAN OFDM 12 Mbps	10.26	10.53	12.08	10.32	10.27
g-mode WLAN OFDM 18 Mbps	10.32	10.59	12.09	10.33	10.29
g-mode WLAN OFDM 24 Mbps	10.60	10.87	12.42	10.65	10.14
g-mode WLAN OFDM 36 Mbps	10.83	11.16	12.61	10.87	10.26
g-mode WLAN OFDM 48 Mbps	10.88	11.15	12.75	10.99	10.34
g-mode WLAN OFDM 54 Mbps	10.51	10.63	12.13	10.57	10.22
n-mode MCS 0: OFDM 6.5 / 7.25 Mbps	9.10	9.36	10.89	9.21	9.78
n-mode MCS 1: OFDM 13.0 / 14.4 Mbps	7.77	8.05	9.51	8.35	7.18
n-mode MCS 2: OFDM 19.5 / 21.7 Mbps	7.83	8.10	9.63	7.83	7.23
n-mode MCS 3: OFDM 26.0 / 28.9 Mbps	8.20	8.52	9.96	8.33	8.29
n-mode MCS 4: OFDM 39.0 / 43.3 Mbps	8.25	8.56	10.05	8.29	8.50
n-mode MCS 5: OFDM 52.0 / 57.8 Mbps	8.38	8.53	10.15	8.42	8.50
n-mode MCS 6: OFDM 58.5 / 65.0 Mbps	8.30	8.57	10.24	8.42	8.53
n-mode MCS 7: OFDM 65.0 / 72.2 Mbps	6.33	6.69	8.26	6.47	6.49
n-mode MCS 8: OFDM 13.0 / 14.5 Mbps	9.10	9.36	10.89	9.21	9.78
n-mode MCS 9: OFDM 26.0 / 28.8 Mbps	7.77	8.05	9.51	8.35	7.18
n-mode MCS 10: OFDM 39.0 / 43.3 Mbps	7.83	8.10	9.63	7.83	7.23
n-mode MCS 11: OFDM 52.0 / 57.7 Mbps	8.20	8.52	9.96	8.33	8.29
n-mode MCS 12: OFDM 78.0 / 86.6 Mbps	8.25	8.56	10.05	8.29	8.50
n-mode MCS 13: OFDM 104.0 / 115.5 Mbps	8.38	8.53	10.15	8.42	8.50
n-mode MCS 14: OFDM 117.0 / 130.0 Mbps	8.30	8.57	10.24	8.42	8.53
n-mode MCS 15: OFDM 130.0 / 144.4 Mbps	6.33	6.69	8.26	6.47	6.49

(Tables continues)

(Tables continues)

WLAN 2.4 GHz Conducted Power Measurements – 40 MHz channel bandwidth					
Mode	CH 3 (1...5)	CH 4 (2...6)	CH 6 (4...8)	CH 8 (6...10)	CH 9 (7...11)
n-mode MCS 0: OFDM 13.5 / 15.0 Mbps	10.30	-	10.14	-	8.97
n-mode MCS 1: OFDM 27.0 / 30.0 Mbps	6.99	-	7.90	-	7.49
n-mode MCS 2: OFDM 40.5 / 45.0 Mbps	7.02	-	7.95	-	7.53
n-mode MCS 3: OFDM 54.0 / 60.0 Mbps	7.01	-	7.79	-	7.59
n-mode MCS 4: OFDM 81.0 / 90.0 Mbps	7.05	-	7.78	-	7.64
n-mode MCS 5: OFDM 108.0 / 120.0 Mbps	6.98	-	7.80	-	7.71
n-mode MCS 6: OFDM 121.5 / 135.0 Mbps	6.56	-	7.93	-	7.65
n-mode MCS 7: OFDM 135.0 / 150.0 Mbps	5.10	-	5.42	-	4.37
n-mode MCS 8: OFDM 27.0 / 30.0 Mbps	10.30	-	10.14	-	8.97
n-mode MCS 9: OFDM 54.0 / 60.0 Mbps	6.99	-	7.90	-	7.49
n-mode MCS 10: OFDM 81.0 / 90.0 Mbps	7.02	-	7.95	-	7.53
n-mode MCS 11: OFDM 108.0 / 120.0 Mbps	7.01	-	7.79	-	7.59
n-mode MCS 12: OFDM 162.0 / 180.0 Mbps	7.05	-	7.78	-	7.64
n-mode MCS 13: OFDM 216.0 / 240.0 Mbps	6.98	-	7.80	-	7.71
n-mode MCS 14: OFDM 243.0 / 270.0 Mbps	6.56	-	7.93	-	7.65
n-mode MCS 15: OFDM 270.0 / 300.0 Mbps	5.10	-	5.42	-	4.37

J.6 Conducted Power from the Sample used in the WLAN2450 AUX Antenna Testing

Type: RX-114; Serial number: 004402/47/351070/3 used for WLAN2450 Body-worn AUX Antenna Testing

WLAN 2.4 GHz Conducted Power Measurements – 20 MHz channel bandwidth					
Mode	CH 1	CH 2	CH 6	CH 10	CH 11
b-mode WLAN DSSS 1 Mbps	13.50	13.15	14.10	11.98	13.18
b-mode WLAN DSSS 2 Mbps	13.44	13.14	14.10	11.97	13.19
b-mode WLAN DSSS 5.5 Mbps	13.63	13.31	14.30	12.08	13.34
b-mode WLAN DSSS 11 Mbps	13.59	13.30	14.25	11.97	12.86
g-mode WLAN OFDM 6 Mbps	10.97	11.05	11.69	9.84	10.54
g-mode WLAN OFDM 9 Mbps	10.99	11.06	11.68	10.24	10.56
g-mode WLAN OFDM 12 Mbps	10.99	11.07	11.74	10.41	10.60
g-mode WLAN OFDM 18 Mbps	11.09	11.18	11.76	10.12	10.61
g-mode WLAN OFDM 24 Mbps	11.23	11.39	11.91	10.21	10.90
g-mode WLAN OFDM 36 Mbps	11.20	11.43	12.08	10.56	11.22
g-mode WLAN OFDM 48 Mbps	11.51	11.33	12.08	10.69	11.19
g-mode WLAN OFDM 54 Mbps	11.08	11.04	11.85	10.14	10.71
n-mode MCS 0: OFDM 6.5 / 7.25 Mbps	9.84	9.96	10.57	8.87	9.45
n-mode MCS 1: OFDM 13.0 / 14.4 Mbps	8.51	8.65	9.20	7.46	8.06
n-mode MCS 2: OFDM 19.5 / 21.7 Mbps	8.58	8.69	9.25	7.51	8.13
n-mode MCS 3: OFDM 26.0 / 28.9 Mbps	8.98	9.10	9.62	7.94	8.53
n-mode MCS 4: OFDM 39.0 / 43.3 Mbps	9.02	9.13	9.67	7.93	8.57
n-mode MCS 5: OFDM 52.0 / 57.8 Mbps	9.21	9.14	9.86	8.00	8.67
n-mode MCS 6: OFDM 58.5 / 65.0 Mbps	9.23	9.27	9.76	8.09	8.61
n-mode MCS 7: OFDM 65.0 / 72.2 Mbps	7.19	7.32	7.86	6.17	6.73
n-mode MCS 8: OFDM 13.0 / 14.5 Mbps	9.84	9.96	10.57	8.87	9.45
n-mode MCS 9: OFDM 26.0 / 28.8 Mbps	8.51	8.65	9.20	7.46	8.06
n-mode MCS 10: OFDM 39.0 / 43.3 Mbps	8.58	8.69	9.25	7.51	8.13
n-mode MCS 11: OFDM 52.0 / 57.7 Mbps	8.98	9.10	9.62	7.94	8.53
n-mode MCS 12: OFDM 78.0 / 86.6 Mbps	9.02	9.13	9.67	7.93	8.57
n-mode MCS 13: OFDM 104.0 / 115.5 Mbps	9.21	9.14	9.86	8.00	8.67
n-mode MCS 14: OFDM 117.0 / 130.0 Mbps	9.23	9.27	9.76	8.09	8.61
n-mode MCS 15: OFDM 130.0 / 144.4 Mbps	7.19	7.32	7.86	6.17	6.73

(Tables continues)

(Tables continues)

WLAN 2.4 GHz Conducted Power Measurements – 40 MHz channel bandwidth					
Mode	CH 3 (1...5)	CH 4 (2...6)	CH 6 (4...8)	CH 8 (6...10)	CH 9 (7...11)
n-mode MCS 0: OFDM 13.5 / 15.0 Mbps	9.55	-	9.24	-	9.19
n-mode MCS 1: OFDM 27.0 / 30.0 Mbps	8.24	-	7.34	-	7.28
n-mode MCS 2: OFDM 40.5 / 45.0 Mbps	8.26	-	7.35	-	7.30
n-mode MCS 3: OFDM 54.0 / 60.0 Mbps	7.41	-	6.85	-	7.15
n-mode MCS 4: OFDM 81.0 / 90.0 Mbps	7.43	-	6.97	-	7.23
n-mode MCS 5: OFDM 108.0 / 120.0 Mbps	7.51	-	6.90	-	7.28
n-mode MCS 6: OFDM 121.5 / 135.0 Mbps	7.49	-	7.02	-	7.34
n-mode MCS 7: OFDM 135.0 / 150.0 Mbps	5.49	-	5.06	-	5.38
n-mode MCS 8: OFDM 27.0 / 30.0 Mbps	9.55	-	9.24	-	9.19
n-mode MCS 9: OFDM 54.0 / 60.0 Mbps	8.24	-	7.34	-	7.28
n-mode MCS 10: OFDM 81.0 / 90.0 Mbps	8.26	-	7.35	-	7.30
n-mode MCS 11: OFDM 108.0 / 120.0 Mbps	7.41	-	6.85	-	7.15
n-mode MCS 12: OFDM 162.0 / 180.0 Mbps	7.43	-	6.97	-	7.23
n-mode MCS 13: OFDM 216.0 / 240.0 Mbps	7.51	-	6.90	-	7.28
n-mode MCS 14: OFDM 243.0 / 270.0 Mbps	7.49	-	7.02	-	7.34
n-mode MCS 15: OFDM 270.0 / 300.0 Mbps	5.49	-	5.06	-	5.38

J.7 Conducted Power from the Sample used in the WLAN5000 Main Antenna Testing

Type: RX-114; Serial number: 004402/47/351376/4 used for WLAN5000 Body-worn Main Antenna Testing

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			36	40	44	48	52	56
802.11a	BPSK	6	7.76	8.14	8.40	8.49	8.71	8.40
802.11a	BPSK	9	6.55	7.31	7.56	7.18	7.43	7.57
802.11a	QPSK	12	6.53	6.88	7.57	7.20	7.42	7.60
802.11a	QPSK	18	6.61	6.99	7.27	7.82	7.50	7.68
802.11a	16QAM	24	6.81	7.31	7.46	7.68	7.82	8.00
802.11a	16QAM	36	7.14	7.67	8.03	7.41	8.20	8.24
802.11a	64QAM	48	6.16	6.43	7.19	6.51	6.80	7.06
802.11a	64QAM	54	6.47	7.00	6.66	6.60	6.92	6.97
802.11n	BPSK	6.5 / 7.25	7.55	8.03	7.86	8.41	8.61	8.25
802.11n	QPSK	13.0 / 14.4	6.55	7.21	7.02	7.11	7.31	7.97
802.11n	QPSK	19.5 / 21.7	6.49	6.84	7.08	7.21	7.42	7.61
802.11n	16QAM	26.0 / 28.9	6.80	7.22	7.39	7.56	7.77	7.95
802.11n	16QAM	39.0 / 43.3	6.88	7.31	7.58	7.75	7.46	8.09
802.11n	64QAM	52.0 / 57.8	6.84	7.71	7.86	7.72	7.86	8.28
802.11n	64QAM	58.5 / 65.0	5.99	6.87	6.70	6.69	7.34	7.00
802.11n	64QAM	65.0 / 72.2	6.39	6.39	6.66	6.58	6.92	7.06
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	7.55	8.03	7.86	8.41	8.61	8.25
802.11n	QPSK	26.0 / 28.9	6.55	7.21	7.02	7.11	7.31	7.97
802.11n	QPSK	39.0 / 43.3	6.49	6.84	7.08	7.21	7.42	7.61
802.11n	16QAM	52.0 / 57.8	6.80	7.22	7.39	7.56	7.77	7.95
802.11n	16QAM	78.0 / 86.7	6.88	7.31	7.58	7.75	7.46	8.09
802.11n	64QAM	104.0 / 115.6	6.84	7.71	7.86	7.72	7.86	8.28
802.11n	64QAM	117.0 / 130.0	5.99	6.87	6.70	6.69	7.34	7.00
802.11n	64QAM	130.0 / 144.4	6.39	6.39	6.66	6.58	6.92	7.06

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values						
			38 (36+40)	42 (40+44)	46 (44+48)	50 (48+52)	54 (52+56)	58 (56+60)	62 (60+64)
802.11n	BPSK	13.5 / 15.0	8.31	8.46	8.20	8.75	9.00	8.47	8.43
802.11n	QPSK	27.0 / 30.0	6.20	6.16	6.37	6.42	6.73	6.66	6.65
802.11n	QPSK	40.5 / 45.0	5.96	5.97	6.17	6.32	6.94	6.44	6.46
802.11n	16QAM	54.0 / 60.0	4.91	5.02	4.83	5.36	5.14	5.57	5.04
802.11n	16QAM	81.0 / 90.0	5.25	5.45	5.70	5.88	6.10	6.07	5.58
802.11n	64QAM	108.0 / 120.0	5.14	5.43	4.95	5.11	5.29	5.32	5.17
802.11n	64QAM	121.5 / 135.0	3.13	3.27	3.10	3.60	3.33	3.84	3.39
802.11n	64QAM	135.0 / 150.0	2.45	2.60	2.57	2.54	2.95	2.92	2.91
802.11ac	256QAM	351 / 390	-	-	-	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.31	8.46	8.20	8.75	9.00	8.47	8.43
802.11n	QPSK	54.0 / 60.0	6.20	6.16	6.37	6.42	6.73	6.66	6.65
802.11n	QPSK	81.0 / 90.0	5.96	5.97	6.17	6.32	6.94	6.44	6.46
802.11n	16QAM	108.0 / 120.0	4.91	5.02	4.83	5.36	5.14	5.57	5.04
802.11n	16QAM	162.0 / 180.0	5.25	5.45	5.70	5.88	6.10	6.07	5.58
802.11n	64QAM	216.0 / 240.0	5.14	5.43	4.95	5.11	5.29	5.32	5.17
802.11n	64QAM	243.0 / 270.0	3.13	3.27	3.10	3.60	3.33	3.84	3.39
802.11n	64QAM	270.0 / 300.0	2.45	2.60	2.57	2.54	2.95	2.92	2.91

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			60	64	100	104	108	112
802.11a	BPSK	6	8.84	8.40	8.56	8.05	7.71	7.62
802.11a	BPSK	9	7.51	8.04	7.15	7.32	6.74	6.72
802.11a	QPSK	12	7.57	7.60	7.19	7.31	6.81	6.74
802.11a	QPSK	18	7.62	7.69	7.29	7.02	6.90	6.88
802.11a	16QAM	24	7.59	7.98	7.53	7.27	7.28	7.14
802.11a	16QAM	36	8.44	7.83	7.85	7.73	7.05	7.28
802.11a	64QAM	48	6.92	7.09	7.21	6.85	6.29	6.16
802.11a	64QAM	54	7.09	7.15	7.05	6.82	6.27	6.20
802.11n	BPSK	6.5 / 7.25	8.29	8.32	8.32	8.00	7.46	7.36
802.11n	QPSK	13.0 / 14.4	7.49	7.48	6.95	6.72	6.62	6.65
802.11n	QPSK	19.5 / 21.7	7.59	7.60	7.10	6.81	6.73	6.74
802.11n	16QAM	26.0 / 28.9	8.00	8.02	7.47	7.18	7.17	7.06
802.11n	16QAM	39.0 / 43.3	7.66	7.62	7.62	7.40	7.32	7.20
802.11n	64QAM	52.0 / 57.8	7.95	7.88	7.83	7.64	7.04	6.94
802.11n	64QAM	58.5 / 65.0	7.10	7.11	7.28	6.87	5.73	6.16
802.11n	64QAM	65.0 / 72.2	7.04	6.99	6.62	6.87	6.20	5.66
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	8.29	8.32	8.32	8.00	7.46	7.36
802.11n	QPSK	26.0 / 28.9	7.49	7.48	6.95	6.72	6.62	6.65
802.11n	QPSK	39.0 / 43.3	7.59	7.60	7.10	6.81	6.73	6.74
802.11n	16QAM	52.0 / 57.8	8.00	8.02	7.47	7.18	7.17	7.06
802.11n	16QAM	78.0 / 86.7	7.66	7.62	7.62	7.40	7.32	7.20
802.11n	64QAM	104.0 / 115.6	7.95	7.88	7.83	7.64	7.04	6.94
802.11n	64QAM	117.0 / 130.0	7.10	7.11	7.28	6.87	5.73	6.16
802.11n	64QAM	130.0 / 144.4	7.04	6.99	6.62	6.87	6.20	5.66

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values					
			102 (100+104)	106 (104+108)	110 (108+112)	114 (112+116)	118 (116+120)	122 (120+124)
802.11n	BPSK	13.5 / 15.0	7.36	7.70	7.09	7.04	7.04	7.09
802.11n	QPSK	27.0 / 30.0	5.61	5.97	5.38	5.26	5.28	5.25
802.11n	QPSK	40.5 / 45.0	5.36	5.69	5.10	4.98	5.00	5.00
802.11n	16QAM	54.0 / 60.0	4.97	4.81	4.20	4.04	4.13	4.09
802.11n	16QAM	81.0 / 90.0	5.10	4.96	4.60	4.72	4.68	4.70
802.11n	64QAM	108.0 / 120.0	4.77	4.62	4.06	4.14	3.99	3.94
802.11n	64QAM	121.5 / 135.0	2.80	2.70	2.11	2.15	2.13	2.00
802.11n	64QAM	135.0 / 150.0	2.31	1.63	1.49	1.45	1.51	1.32
802.11ac	256QAM	351 / 390	-	-	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	7.36	7.70	7.09	7.04	7.04	7.09
802.11n	QPSK	54.0 / 60.0	5.61	5.97	5.38	5.26	5.28	5.25
802.11n	QPSK	81.0 / 90.0	5.36	5.69	5.10	4.98	5.00	5.00
802.11n	16QAM	108.0 / 120.0	4.97	4.81	4.20	4.04	4.13	4.09
802.11n	16QAM	162.0 / 180.0	5.10	4.96	4.60	4.72	4.68	4.70
802.11n	64QAM	216.0 / 240.0	4.77	4.62	4.06	4.14	3.99	3.94
802.11n	64QAM	243.0 / 270.0	2.80	2.70	2.11	2.15	2.13	2.00
802.11n	64QAM	270.0 / 300.0	2.31	1.63	1.49	1.45	1.51	1.32

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			116	120	124	128	132	136
802.11a	BPSK	6	7.13	7.18	7.06	7.06	7.57	7.49
802.11a	BPSK	9	6.18	6.23	6.62	6.13	6.64	6.61
802.11a	QPSK	12	6.30	6.28	6.21	6.18	6.62	6.63
802.11a	QPSK	18	6.38	6.35	6.35	6.29	6.81	6.33
802.11a	16QAM	24	6.70	6.71	6.56	6.52	6.53	7.01
802.11a	16QAM	36	6.41	6.52	6.35	6.72	6.70	6.81
802.11a	64QAM	48	5.67	5.73	5.69	5.45	6.20	6.02
802.11a	64QAM	54	5.81	5.15	5.71	5.49	5.75	6.21
802.11n	BPSK	6.5 / 7.25	6.86	6.94	6.84	6.84	7.34	7.28
802.11n	QPSK	13.0 / 14.4	6.15	6.14	6.05	6.07	6.60	6.11
802.11n	QPSK	19.5 / 21.7	6.22	6.25	6.14	6.18	6.17	6.20
802.11n	16QAM	26.0 / 28.9	6.17	6.67	6.50	6.61	6.50	6.53
802.11n	16QAM	39.0 / 43.3	6.33	6.82	6.28	6.16	6.73	6.62
802.11n	64QAM	52.0 / 57.8	6.87	6.96	6.90	6.34	6.87	6.83
802.11n	64QAM	58.5 / 65.0	5.67	5.66	5.70	5.48	6.16	5.58
802.11n	64QAM	65.0 / 72.2	5.67	5.27	5.65	5.53	6.14	6.13
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	6.86	6.94	6.84	6.84	7.34	7.28
802.11n	QPSK	26.0 / 28.9	6.15	6.14	6.05	6.07	6.60	6.11
802.11n	QPSK	39.0 / 43.3	6.22	6.25	6.14	6.18	6.17	6.20
802.11n	16QAM	52.0 / 57.8	6.17	6.67	6.50	6.61	6.50	6.53
802.11n	16QAM	78.0 / 86.7	6.33	6.82	6.28	6.16	6.73	6.62
802.11n	64QAM	104.0 / 115.6	6.87	6.96	6.90	6.34	6.87	6.83
802.11n	64QAM	117.0 / 130.0	5.67	5.66	5.70	5.48	6.16	5.58
802.11n	64QAM	130.0 / 144.4	5.67	5.27	5.65	5.53	6.14	6.13

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values			
			126 (124+128)	130 (128+132)	134 (132+136)	138 (136+140)
802.11n	BPSK	13.5 / 15.0	6.96	6.95	7.04	7.03
802.11n	QPSK	27.0 / 30.0	5.32	5.21	5.29	5.37
802.11n	QPSK	40.5 / 45.0	5.01	4.89	5.02	5.09
802.11n	16QAM	54.0 / 60.0	4.04	4.05	4.05	4.08
802.11n	16QAM	81.0 / 90.0	4.17	4.18	4.46	4.36
802.11n	64QAM	108.0 / 120.0	3.85	3.86	3.99	4.18
802.11n	64QAM	121.5 / 135.0	2.59	1.50	1.95	1.97
802.11n	64QAM	135.0 / 150.0	1.37	1.28	1.46	1.58
802.11ac	256QAM	351 / 390	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-
802.11n	BPSK	27.0 / 30.0	6.96	6.95	7.04	7.03
802.11n	QPSK	54.0 / 60.0	5.32	5.21	5.29	5.37
802.11n	QPSK	81.0 / 90.0	5.01	4.89	5.02	5.09
802.11n	16QAM	108.0 / 120.0	4.04	4.05	4.05	4.08
802.11n	16QAM	162.0 / 180.0	4.17	4.18	4.46	4.36
802.11n	64QAM	216.0 / 240.0	3.85	3.86	3.99	4.18
802.11n	64QAM	243.0 / 270.0	2.59	1.50	1.95	1.97
802.11n	64QAM	270.0 / 300.0	1.37	1.28	1.46	1.58

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			140	149	153	157	161	165
802.11a	BPSK	6	7.48	7.63	8.12	8.78	8.88	8.91
802.11a	BPSK	9	6.60	7.23	7.32	7.47	8.10	8.09
802.11a	QPSK	12	6.63	7.25	7.36	7.46	7.63	8.18
802.11a	QPSK	18	6.24	6.89	6.99	7.61	8.23	8.25
802.11a	16QAM	24	6.41	7.05	7.68	7.78	7.95	8.55
802.11a	16QAM	36	6.69	7.28	7.61	7.68	8.18	8.42
802.11a	64QAM	48	5.88	6.08	6.44	6.99	7.04	7.49
802.11a	64QAM	54	5.63	6.20	6.58	6.92	7.09	7.54
802.11n	BPSK	6.5 / 7.25	7.28	7.41	7.95	8.61	8.37	8.76
802.11n	QPSK	13.0 / 14.4	6.56	6.74	7.23	7.36	7.50	8.00
802.11n	QPSK	19.5 / 21.7	6.66	6.77	6.83	7.45	7.59	8.07
802.11n	16QAM	26.0 / 28.9	6.45	7.03	7.17	7.81	7.94	8.40
802.11n	16QAM	39.0 / 43.3	6.59	7.16	7.30	7.52	8.14	8.05
802.11n	64QAM	52.0 / 57.8	6.73	7.35	7.49	7.95	7.90	8.40
802.11n	64QAM	58.5 / 65.0	5.77	6.01	6.64	6.94	7.30	7.54
802.11n	64QAM	65.0 / 72.2	5.66	6.07	6.25	6.95	6.93	7.42
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	7.28	7.41	7.95	8.61	8.37	8.76
802.11n	QPSK	26.0 / 28.9	6.56	6.74	7.23	7.36	7.50	8.00
802.11n	QPSK	39.0 / 43.3	6.66	6.77	6.83	7.45	7.59	8.07
802.11n	16QAM	52.0 / 57.8	6.45	7.03	7.17	7.81	7.94	8.40
802.11n	16QAM	78.0 / 86.7	6.59	7.16	7.30	7.52	8.14	8.05
802.11n	64QAM	104.0 / 115.6	6.73	7.35	7.49	7.95	7.90	8.40
802.11n	64QAM	117.0 / 130.0	5.77	6.01	6.64	6.94	7.30	7.54
802.11n	64QAM	130.0 / 144.4	5.66	6.07	6.25	6.95	6.93	7.42

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values			
			151 (149+153)	155 (153+157)	159 (157+161)	163 (161+165)
802.11n	BPSK	13.5 / 15.0	8.16	8.23	8.50	8.87
802.11n	QPSK	27.0 / 30.0	6.15	6.52	6.76	7.28
802.11n	QPSK	40.5 / 45.0	6.17	5.67	6.38	6.34
802.11n	16QAM	54.0 / 60.0	5.02	5.24	5.30	5.38
802.11n	16QAM	81.0 / 90.0	5.28	5.51	5.55	6.04
802.11n	64QAM	108.0 / 120.0	5.14	5.43	5.15	5.58
802.11n	64QAM	121.5 / 135.0	3.04	3.28	3.03	3.68
802.11n	64QAM	135.0 / 150.0	2.65	2.80	2.62	3.11
802.11ac	256QAM	351 / 390	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.16	8.23	8.50	8.87
802.11n	QPSK	54.0 / 60.0	6.15	6.52	6.76	7.28
802.11n	QPSK	81.0 / 90.0	6.17	5.67	6.38	6.34
802.11n	16QAM	108.0 / 120.0	5.02	5.24	5.30	5.38
802.11n	16QAM	162.0 / 180.0	5.28	5.51	5.55	6.04
802.11n	64QAM	216.0 / 240.0	5.14	5.43	5.15	5.58
802.11n	64QAM	243.0 / 270.0	3.04	3.28	3.03	3.68
802.11n	64QAM	270.0 / 300.0	2.65	2.80	2.62	3.11

ij.8 Conducted Power from the Sample used in the WLAN5000 AUX Antenna Testing

Type: RX-114; Serial number: 004402/47/351376/4 used for WLAN5000 Body-worn AUX Antenna Testing

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			36	40	44	48	52	56
802.11a	BPSK	6	10.84	10.67	10.66	9.61	9.16	8.94
802.11a	BPSK	9	9.21	9.45	9.20	8.32	8.29	8.27
802.11a	QPSK	12	9.61	9.49	9.25	8.88	8.34	8.26
802.11a	QPSK	18	9.68	9.57	9.38	9.05	8.07	7.90
802.11a	16QAM	24	10.16	9.88	9.70	8.89	8.80	8.71
802.11a	16QAM	36	10.73	10.20	10.12	9.10	8.63	8.42
802.11a	64QAM	48	9.53	8.96	9.22	8.30	7.85	7.79
802.11a	64QAM	54	9.80	9.00	9.34	8.40	7.82	7.73
802.11n	BPSK	6.5 / 7.25	10.02	10.22	10.05	9.60	9.15	8.55
802.11n	QPSK	13.0 / 14.4	9.21	9.45	9.20	8.36	7.90	7.74
802.11n	QPSK	19.5 / 21.7	9.65	9.49	9.31	8.45	8.00	7.90
802.11n	16QAM	26.0 / 28.9	10.19	9.90	9.79	8.96	8.35	8.37
802.11n	16QAM	39.0 / 43.3	10.24	10.10	9.93	9.12	8.59	8.47
802.11n	64QAM	52.0 / 57.8	10.39	10.25	10.27	9.26	8.74	8.64
802.11n	64QAM	58.5 / 65.0	8.94	9.22	8.90	7.90	7.96	7.80
802.11n	64QAM	65.0 / 72.2	9.24	9.09	8.88	8.50	7.92	7.80
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	10.02	10.22	10.05	9.60	9.15	8.55
802.11n	QPSK	26.0 / 28.9	9.21	9.45	9.20	8.36	7.90	7.74
802.11n	QPSK	39.0 / 43.3	9.65	9.49	9.31	8.45	8.00	7.90
802.11n	16QAM	52.0 / 57.8	10.19	9.90	9.79	8.96	8.35	8.37
802.11n	16QAM	78.0 / 86.7	10.24	10.10	9.93	9.12	8.59	8.47
802.11n	64QAM	104.0 / 115.6	10.39	10.25	10.27	9.26	8.74	8.64
802.11n	64QAM	117.0 / 130.0	8.94	9.22	8.90	7.90	7.96	7.80
802.11n	64QAM	130.0 / 144.4	9.24	9.09	8.88	8.50	7.92	7.80

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values						
			38 (36+40)	42 (40+44)	46 (44+48)	50 (48+52)	54 (52+56)	58 (56+60)	62 (60+64)
802.11n	BPSK	13.5 / 15.0	9.89	9.79	9.07	9.02	8.51	8.70	8.27
802.11n	QPSK	27.0 / 30.0	8.01	7.77	7.65	7.17	7.13	7.33	6.99
802.11n	QPSK	40.5 / 45.0	7.90	7.86	7.54	7.02	7.05	7.28	6.91
802.11n	16QAM	54.0 / 60.0	6.86	7.35	6.64	6.15	6.21	6.36	6.01
802.11n	16QAM	81.0 / 90.0	7.33	7.26	7.17	6.24	6.68	6.37	6.06
802.11n	64QAM	108.0 / 120.0	6.67	7.01	6.35	6.49	6.02	6.15	5.91
802.11n	64QAM	121.5 / 135.0	5.17	5.22	4.82	4.52	4.50	4.25	4.39
802.11n	64QAM	135.0 / 150.0	4.55	4.11	3.88	3.38	3.56	3.76	3.38
802.11ac	256QAM	351 / 390	-	-	-	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	9.89	9.79	9.07	9.02	8.51	8.70	8.27
802.11n	QPSK	54.0 / 60.0	8.01	7.77	7.65	7.17	7.13	7.33	6.99
802.11n	QPSK	81.0 / 90.0	7.90	7.86	7.54	7.02	7.05	7.28	6.91
802.11n	16QAM	108.0 / 120.0	6.86	7.35	6.64	6.15	6.21	6.36	6.01
802.11n	16QAM	162.0 / 180.0	7.33	7.26	7.17	6.24	6.68	6.37	6.06
802.11n	64QAM	216.0 / 240.0	6.67	7.01	6.35	6.49	6.02	6.15	5.91
802.11n	64QAM	243.0 / 270.0	5.17	5.22	4.82	4.52	4.50	4.25	4.39
802.11n	64QAM	270.0 / 300.0	4.55	4.11	3.88	3.38	3.56	3.76	3.38

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			60	64	100	104	108	112
802.11a	BPSK	6	9.04	8.53	9.03	8.84	9.38	9.05
802.11a	BPSK	9	8.38	7.54	8.12	7.99	8.43	8.14
802.11a	QPSK	12	7.97	7.51	8.08	7.99	8.45	8.60
802.11a	QPSK	18	8.05	7.57	8.21	8.06	8.58	8.25
802.11a	16QAM	24	8.41	7.96	8.58	8.45	8.89	8.61
802.11a	16QAM	36	8.71	8.19	8.87	8.65	9.20	8.78
802.11a	64QAM	48	7.86	7.52	8.00	7.84	8.08	8.25
802.11a	64QAM	54	7.95	7.54	7.49	7.94	8.09	8.26
802.11n	BPSK	6.5 / 7.25	8.61	8.18	8.85	8.67	9.18	8.87
802.11n	QPSK	13.0 / 14.4	7.96	6.92	8.04	7.91	8.40	8.00
802.11n	QPSK	19.5 / 21.7	8.03	7.57	8.08	8.02	8.49	8.18
802.11n	16QAM	26.0 / 28.9	8.47	7.99	8.62	8.28	8.89	8.56
802.11n	16QAM	39.0 / 43.3	8.61	8.12	8.74	8.13	8.94	8.73
802.11n	64QAM	52.0 / 57.8	8.72	7.95	8.51	8.67	8.72	8.85
802.11n	64QAM	58.5 / 65.0	7.51	7.12	7.63	7.43	8.09	7.97
802.11n	64QAM	65.0 / 72.2	7.61	7.08	7.50	7.34	8.08	8.25
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	8.61	8.18	8.85	8.67	9.18	8.87
802.11n	QPSK	26.0 / 28.9	7.96	6.92	8.04	7.91	8.40	8.00
802.11n	QPSK	39.0 / 43.3	8.03	7.57	8.08	8.02	8.49	8.18
802.11n	16QAM	52.0 / 57.8	8.47	7.99	8.62	8.28	8.89	8.56
802.11n	16QAM	78.0 / 86.7	8.61	8.12	8.74	8.13	8.94	8.73
802.11n	64QAM	104.0 / 115.6	8.72	7.95	8.51	8.67	8.72	8.85
802.11n	64QAM	117.0 / 130.0	7.51	7.12	7.63	7.43	8.09	7.97
802.11n	64QAM	130.0 / 144.4	7.61	7.08	7.50	7.34	8.08	8.25

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values					
			102 (100+104)	106 (104+108)	110 (108+112)	114 (112+116)	118 (116+120)	122 (120+124)
802.11n	BPSK	13.5 / 15.0	8.25	8.72	8.30	8.47	9.24	9.42
802.11n	QPSK	27.0 / 30.0	6.86	6.89	6.41	6.56	7.36	7.54
802.11n	QPSK	40.5 / 45.0	6.93	6.86	6.40	6.47	7.71	8.07
802.11n	16QAM	54.0 / 60.0	5.96	5.94	5.49	5.64	6.85	7.05
802.11n	16QAM	81.0 / 90.0	5.86	5.81	5.84	5.91	6.68	7.00
802.11n	64QAM	108.0 / 120.0	5.80	5.68	5.80	5.95	6.57	6.87
802.11n	64QAM	121.5 / 135.0	4.03	4.44	3.95	3.98	4.73	5.06
802.11n	64QAM	135.0 / 150.0	3.14	3.00	3.06	3.22	4.01	4.26
802.11ac	256QAM	351 / 390	-	-	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-	-	-
802.11n	BPSK	27.0 / 30.0	8.25	8.72	8.30	8.47	9.24	9.42
802.11n	QPSK	54.0 / 60.0	6.86	6.89	6.41	6.56	7.36	7.54
802.11n	QPSK	81.0 / 90.0	6.93	6.86	6.40	6.47	7.71	8.07
802.11n	16QAM	108.0 / 120.0	5.96	5.94	5.49	5.64	6.85	7.05
802.11n	16QAM	162.0 / 180.0	5.86	5.81	5.84	5.91	6.68	7.00
802.11n	64QAM	216.0 / 240.0	5.80	5.68	5.80	5.95	6.57	6.87
802.11n	64QAM	243.0 / 270.0	4.03	4.44	3.95	3.98	4.73	5.06
802.11n	64QAM	270.0 / 300.0	3.14	3.00	3.06	3.22	4.01	4.26

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			116	120	124	128	132	136
802.11a	BPSK	6	9.31	10.30	10.59	10.54	9.74	9.61
802.11a	BPSK	9	8.27	9.39	9.62	9.64	8.81	8.76
802.11a	QPSK	12	8.76	9.41	9.62	9.66	9.32	9.27
802.11a	QPSK	18	8.45	9.55	9.75	9.78	8.98	8.87
802.11a	16QAM	24	8.71	9.83	9.46	9.92	9.26	9.09
802.11a	16QAM	36	9.06	10.06	10.43	10.19	9.69	9.37
802.11a	64QAM	48	8.37	9.10	9.13	9.12	8.85	8.66
802.11a	64QAM	54	8.72	9.10	9.20	9.13	8.76	8.79
802.11n	BPSK	6.5 / 7.25	9.30	10.15	10.48	10.39	9.60	9.51
802.11n	QPSK	13.0 / 14.4	8.27	8.94	9.09	9.26	8.83	8.75
802.11n	QPSK	19.5 / 21.7	8.35	8.97	9.20	9.28	8.88	8.79
802.11n	16QAM	26.0 / 28.9	8.79	9.40	9.52	9.53	9.27	9.09
802.11n	16QAM	39.0 / 43.3	8.88	9.51	10.17	9.80	9.41	9.17
802.11n	64QAM	52.0 / 57.8	9.21	9.70	10.09	10.15	9.68	9.44
802.11n	64QAM	58.5 / 65.0	8.34	9.06	8.94	9.15	8.74	8.71
802.11n	64QAM	65.0 / 72.2	8.31	9.02	9.00	9.12	8.78	8.74
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	9.30	10.15	10.48	10.39	9.60	9.51
802.11n	QPSK	26.0 / 28.9	8.27	8.94	9.09	9.26	8.83	8.75
802.11n	QPSK	39.0 / 43.3	8.35	8.97	9.20	9.28	8.88	8.79
802.11n	16QAM	52.0 / 57.8	8.79	9.40	9.52	9.53	9.27	9.09
802.11n	16QAM	78.0 / 86.7	8.88	9.51	10.17	9.80	9.41	9.17
802.11n	64QAM	104.0 / 115.6	9.21	9.70	10.09	10.15	9.68	9.44
802.11n	64QAM	117.0 / 130.0	8.34	9.06	8.94	9.15	8.74	8.71
802.11n	64QAM	130.0 / 144.4	8.31	9.02	9.00	9.12	8.78	8.74

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values			
			126 (124+128)	130 (128+132)	134 (132+136)	138 (136+140)
802.11n	BPSK	13.5 / 15.0	9.55	10.07	9.65	9.59
802.11n	QPSK	27.0 / 30.0	7.76	8.25	7.83	7.74
802.11n	QPSK	40.5 / 45.0	8.09	8.64	7.72	7.67
802.11n	16QAM	54.0 / 60.0	6.62	7.16	6.75	6.69
802.11n	16QAM	81.0 / 90.0	7.06	7.00	7.17	6.99
802.11n	64QAM	108.0 / 120.0	6.92	7.05	7.10	6.98
802.11n	64QAM	121.5 / 135.0	5.10	5.14	5.27	5.22
802.11n	64QAM	135.0 / 150.0	4.27	4.37	3.90	4.33
802.11ac	256QAM	351 / 390	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-
802.11n	BPSK	27.0 / 30.0	9.55	10.07	9.65	9.59
802.11n	QPSK	54.0 / 60.0	7.76	8.25	7.83	7.74
802.11n	QPSK	81.0 / 90.0	8.09	8.64	7.72	7.67
802.11n	16QAM	108.0 / 120.0	6.62	7.16	6.75	6.69
802.11n	16QAM	162.0 / 180.0	7.06	7.00	7.17	6.99
802.11n	64QAM	216.0 / 240.0	6.92	7.05	7.10	6.98
802.11n	64QAM	243.0 / 270.0	5.10	5.14	5.27	5.22
802.11n	64QAM	270.0 / 300.0	4.27	4.37	3.90	4.33

(Tables continues)

(Tables continues)

Standard	Modulation	Data speed [Mbps]	RLAN 5 GHz / 20 MHz channel bandwidth: Measured values					
			140	149	153	157	161	165
802.11a	BPSK	6	9.55	9.25	9.04	8.96	8.68	8.88
802.11a	BPSK	9	8.66	8.47	8.14	8.01	7.84	7.97
802.11a	QPSK	12	8.67	8.40	8.15	8.02	7.88	7.95
802.11a	QPSK	18	9.19	8.52	8.21	8.16	7.94	8.06
802.11a	16QAM	24	8.84	8.70	8.41	8.26	8.11	8.28
802.11a	16QAM	36	9.16	8.98	8.62	8.49	8.55	8.44
802.11a	64QAM	48	8.62	7.56	7.93	7.30	7.48	7.29
802.11a	64QAM	54	8.64	8.12	7.93	7.75	7.30	7.41
802.11n	BPSK	6.5 / 7.25	9.53	9.05	8.86	8.78	8.49	8.67
802.11n	QPSK	13.0 / 14.4	8.61	8.36	8.04	7.89	7.76	7.85
802.11n	QPSK	19.5 / 21.7	8.74	8.44	8.13	7.99	7.86	7.94
802.11n	16QAM	26.0 / 28.9	8.91	8.62	8.38	8.24	8.15	8.21
802.11n	16QAM	39.0 / 43.3	9.05	8.72	8.56	8.35	8.21	8.33
802.11n	64QAM	52.0 / 57.8	9.24	9.11	8.69	8.68	8.64	8.55
802.11n	64QAM	58.5 / 65.0	8.65	8.20	7.83	7.34	7.31	7.90
802.11n	64QAM	65.0 / 72.2	8.60	8.01	7.95	7.88	7.45	7.30
802.11ac	256QAM	78.0 / 86.7	-	-	-	-	-	-
802.11n	BPSK	13.0 / 14.4	9.53	9.05	8.86	8.78	8.49	8.67
802.11n	QPSK	26.0 / 28.9	8.61	8.36	8.04	7.89	7.76	7.85
802.11n	QPSK	39.0 / 43.3	8.74	8.44	8.13	7.99	7.86	7.94
802.11n	16QAM	52.0 / 57.8	8.91	8.62	8.38	8.24	8.15	8.21
802.11n	16QAM	78.0 / 86.7	9.05	8.72	8.56	8.35	8.21	8.33
802.11n	64QAM	104.0 / 115.6	9.24	9.11	8.69	8.68	8.64	8.55
802.11n	64QAM	117.0 / 130.0	8.65	8.20	7.83	7.34	7.31	7.90
802.11n	64QAM	130.0 / 144.4	8.60	8.01	7.95	7.88	7.45	7.30

Standard	Modulation	Data speed [MBPS]	RLAN 5 GHz / 40 MHz channel bandwidth: Measured values			
			151 (149+153)	155 (153+157)	159 (157+161)	163 (161+165)
802.11n	BPSK	13.5 / 15.0	9.02	8.91	8.67	8.42
802.11n	QPSK	27.0 / 30.0	7.24	7.06	6.87	6.63
802.11n	QPSK	40.5 / 45.0	7.14	6.99	6.82	6.59
802.11n	16QAM	54.0 / 60.0	6.06	6.04	5.69	5.53
802.11n	16QAM	81.0 / 90.0	6.45	6.29	6.13	5.48
802.11n	64QAM	108.0 / 120.0	6.26	6.29	5.58	5.71
802.11n	64QAM	121.5 / 135.0	4.28	4.47	4.14	4.05
802.11n	64QAM	135.0 / 150.0	3.41	3.14	3.06	3.31
802.11ac	256QAM	351 / 390	-	-	-	-
802.11ac	256QAM	390 / 433.3	-	-	-	-
802.11n	BPSK	27.0 / 30.0	9.02	8.91	8.67	8.42
802.11n	QPSK	54.0 / 60.0	7.24	7.06	6.87	6.63
802.11n	QPSK	81.0 / 90.0	7.14	6.99	6.82	6.59
802.11n	16QAM	108.0 / 120.0	6.06	6.04	5.69	5.53
802.11n	16QAM	162.0 / 180.0	6.45	6.29	6.13	5.48
802.11n	64QAM	216.0 / 240.0	6.26	6.29	5.58	5.71
802.11n	64QAM	243.0 / 270.0	4.28	4.47	4.14	4.05
802.11n	64QAM	270.0 / 300.0	3.41	3.14	3.06	3.31

APPENDIX K: SAR EXCLUSION THRESHOLD CALCULATIONS

- a) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm) ($f_{\text{MHz}}/150$)] mW, at 100 MHz to 1500 MHz

162.8
108.5
108.6
113.3
163.0
108.8
113.6
163.3
169.6
177.9

$Tx\ pwr > Threshold \Rightarrow SAR$

95.6
62.3

NO
NO

NO
NO

NO

APPENDIX L: PROXIMITY SENSOR TEST RESULTS

[illegible]